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Transactions of the American Dermatological Association

American Dermatological Association

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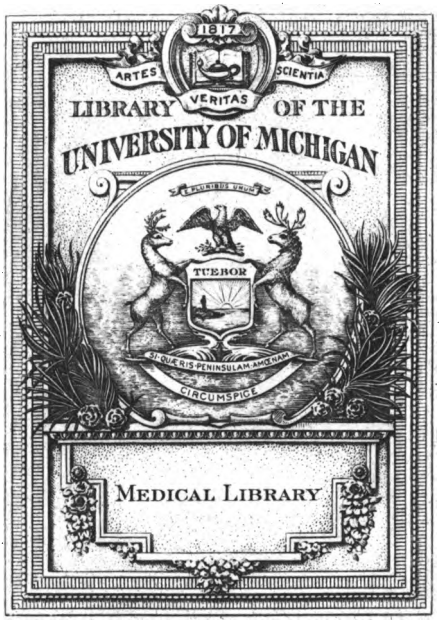

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TRANSACTIONS

OF THE

AMERICAN DERMATOLOGICAL ASSOCIATION

AT ITS

EIGHTEENTH ANNUAL MEETING

HELD AT THE

ARLINGTON HOTEL, WASHINGTON, D. C.,

May 29th, 30th, 31st, and June 1st, 1894,

IN CONNECTION WITH

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Official Report of the Proceedings

BY

CHARLES WARRENNE ALLEN, M. D., *Secretary.*

NEW YORK:

PRESS OF GEO. L. GOODMAN & CO.

1894.

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1894.

American Dermatological Association,

EIGHTEENTH ANNUAL MEETING.

First Day, Tuesday, May 29th—Morning Session at 10:30 o'clock.

The Eighteenth Annual Meeting of the American Dermatological Association was held at the Arlington Hotel, Washington, D. C.

The first paper of the session was read by its author,

GEORGE THOMAS JACKSON, M. D., and was entitled

THYROID FEEDING IN DISEASES OF THE SKIN.

The wonderful efficacy of thyroid feeding in myxœdema and cretinism is so well attested that there can be no doubt about it. The discovery of this method of treating these diseases may well be reckoned among the most noteworthy of the advances in modern therapeutics.

In myxœdema we find that the skin is dry and scaly, the hair is lost from the scalp and other hairy parts, and the nails are more or less deformed. Under thyroid feeding it was observed that the skin ceased scaling and resumed its normal appearance; that the hair grew again, and that the nails became once more sound. From this it was argued that thyroid feeding should prove curative in those diseases of the skin in which there is dryness and scaling. Psoriasis, eczema, dermatitis exfoliativa, icthyosis, have all been subjected to thyroid feeding, and reports of cases have already appeared in the medical journals. In rosacea one case and lupus vulgaris two cases, the remedy has been tried and results reported.

What it is in the thyroid that produces the results obtained we as yet have not discovered. That in myœdema thyroid feeding furnishes something to the body that the degenerated or changed thyroid proper to the patient has ceased to furnish is a rational theory of its action and basis for its use. I believe that physiologists are by no means agreed as to the functions of the thyroid. Forbes[1] suggests that thyroid feeding benefits

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[1] *Med. Times and Gaz.*, 1894, XXII. 136.

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skin diseases by increasing the hæmoglobin of the blood and by stimulating and regulating both the neutrotrophic and the trophic centres for the skin. Of course this is pure theory. It has the advantage of sounding well and the disadvantage of giving us no more positive information than the often-used term "trophoneurosis," behind which cloak we frequently endeavor to hide our ignorance of the etiology of a disease.

The action of the thyroid upon the skin is sometimes very marked, especially after large doses. Thus in a case of Dr. F. J. Smith, mentioned by Davies [1] after the accidental ingestion of ten thyroid glands at one sitting there was an acute dermatitis with exudation of a peculiar sticky secretion saturating the skin, which was followed by entire peeling of the skin of the hands. In moderate doses exfoliation is at first increased and then lessened.

Unfortunately the administration of the thyroid is attended by more or less danger to the patient's life, several sudden deaths from its use having been reported, and a still larger number of cases in which most serious symptoms suddenly developed. It seems to exert an inhibitory action on the heart, causing faintness, palpitation and rapid, irregular pulse. There is generally a rise of temperature, sometimes very marked, when the article is at first administered, and afterward when the dosage is increased, or even without increase. Headache, nausea, vomiting, diarrhœa, marked loss of weight, have all been noted from its use. As we are still in the experimental stage, it is not possible to speak definitely of the dosage. Various methods have been employed to introduce the thyroid into the economy. At first the sheep's gland itself was eaten cooked in various ways. Subsequently a glycerine extract, a desiccated powder, and compressed tablets of the powder or extract have been prepared for our use. The powder and tablets have been most used thus far, and the initial dose for an adult may be placed at three to five grains two or three times a day. I found in one case that three grains three times a day was all the patient could take. As much as thirty-five or forty grains have been taken during the day. In all cases the patients must be carefully watched. It seems to me that the best method of using the thyroid is by putting up the powder in gelatine capsules. They are much more sure of being absorbed by the stomach than are compressed tablets, and in them the dose may be exactly regulated.

My own experiments with thyroid feeding are limited to five cases, and are presented now because it is desirable that as full reports as possible should be made as to the action of every new remedy, no matter whether the results are favorable or unfavorable. My first three cases

[1] *Brit. Jour. Dermat.*, 1893, V. 257.

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were of xeroderma, my fourth was ichthyosis, and my fifth was dermatitis exfoliativa. All but the last case were treated as ambulant patients.

No. 1.—Minnie R., aged 24, single; November 20, 1893. Xeroderma. The skin of the arms, legs and trunk is dry and scaly. Face and scalp are slightly scaly. The scaling is most marked on the chest. The general health is good. She was given one grain t. i. d. of Parke, Davis Co.'s dessicated thyroid put up in capsules.

November 23d. Has caused no disturbance of health. Increase dose to two grains t. i. d.

December 2d. Skin softer and seems less harsh and dry. Complains of frontal headache, beginning in the morning and lasting until the afternoon.

January 13, 1894. Has been in the house for several weeks with bronchitis, and has taken no thyroid. Shortly after stopping the medicine the skin began to peel off in large flakes. Now the peeling has stopped. Renew thyroid at two grains t. i. d.

January 23. Soon after commencing the thyroid she had a return of her frontal headache, which is one of soreness. Arms and upper chest are smooth. No change on the legs.

This patient was confined to the house for the rest of the Winter with chronic bronchitis, and the experiment was never resumed.

No. 2.—Maggie R., aged 22, single; November 23, 1893. Xeroderma. Sister of No. 1. Most marked on limbs. Face and hands trouble her a good deal in Winter time on account of being so dry and cracking. Gave two grains of thyroid, dessicated, t. i. d.

December 12th. No change. No constitutional disturbance. Increase to three grains t. i. d.

December 21st. About four days after taking last-named doses she had a severe headache on top of her head that has continued until now. Directed her to stop medicine for twenty-four hours, and then begin again.

December 27th. Headache stopped when medicine was stopped, and has not troubled her since, though again taking the medicine. Continue treatment.

January 4, 1894. Comes with an acute, intense, general erythema. Complains of burning of the skin. This began four days ago. Skin is softer and smoother. She thinks that her legs are more scaly than usual. Continue treatment.

January 13th. Erythema faded soon after last visit. Skin about the same. Increase dose to five grains t. i. d.

January 23d. Reports that last dose nauseated her and made her

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feverish, so stopped medicine for past week. Says that her skin is softer than usual at this time of year. To take no medicine for one month.

March 9th. The skin is rougher than before she stopped taking the medicine, though the weather is warm.

This patient took the thyroid for another month and then we agreed that there was no use in continuing it longer.

No. 3.—Louise S., aged 16, single; October, 1893. Xeroderma. This patient might almost be called an ichthyosis case. She was referred to me in consultation by Dr. D. Magie, of New York. Under his oversight she took the glycerine [extract, as made by Dr. G. W. Crary, in three to five drop doses. The medicine gave her lightness of head and a general tired feeling, so that it had to be discontinued. As these symptoms ceased when the medicine was not taken, and returned shortly after it was again exhibited, there is little doubt about the connection between the two. The skin was not benefited.

No. 4.—Maria B., aged 12; November 29, 1893. Ichthyosis. This was a very pronounced case, showing the blackish tesselated arrangement of the epidermis over the extensor aspects of both elbows and knees; some ectropion; fingers flexed on palms; palms cracked and bleeding. She was put on the dessicated thyroid three grains t. i. d.

December 18th. Is taking ten grains per day.

December 27th. Patient says she feels more comfortable. Little change noticeable in the skin, though perhaps it is a trifle softer, and hands more supple. Dose increased to four grains t. i. d.

January 13, 1894. Increase dose to five grains t. i. d.

February 14th. Dose has been gradually increased to six grains t. i. d., with no apparent improvement.

March 21st. Has taken no thyroid since last seen. Does not feel so comfortable as she did when she was taking it, as she has more itching. Give thyroid again in three grain doses t. i. d.

After this time the patient ceased attending at the dispensary.

No. 5.—Mrs. J. S. R., aged 48. Married March 17, 1894. Dermatitis exfoliativa.

This patient was sent to me in consultation by Dr. J. G. Smith, and was admitted on my recommendation into the Presbyterian Hospital, on March 21st, where she has been under careful watching up to the time of writing, May 15, 1894. Thanks to the courtesy of Drs. W. H. Flint and W. G. Thompson, I have had ample opportunity for studying the case, and for using the notes kept by the staff.

Family history: Her brothers have eczema. Her mother died of paralysis and one brother died of phthisis.

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Previous history: Has had one living child, and two miscarriages. Menopause last summer. Has had several attacks of eczema during the past three years, appearing on different parts of the body. Is asthmatic. Her bowels have been regular.

Her present disease began in the latter part of December, 1893. It began on the arms and spread rapidly from there all over the body. Her hair soon fell out from all over the body, and the whole surface of the body became scaly, so that her bed would be full of scales in the morning.

March 21st. On admission to hospital the whole surface of the body was red, dry and scaling abundantly, the scales being thin and readily separating on lightly rubbing. There was absolutely no moisture anywhere nor cracking over the joints. The skin was but slightly thickened, and showed no excoriations from scratching, although the patient complained of intense itching. There was no hair anywhere on the body. The nails were thickened, striated and broken. Patient is chilly all the time. Bowels constipated. Tongue clean. Appetite good. Is thirsty all the time. She says that she urinates only twice in twenty-four hours.

The urine showed neither albumin nor sugar. Sp. g. 1025. Some leucocytes and mucus.

Temperature, 99°. P. 102, R. 16.

She was put on a fluid diet; given a laxative pill; and ordered a soda bath every other day followed by the free use of vaseline. She was also given thyroid extract, fluid, two drops t. i. d.

March 25th. Temperature 100½° in the afternoon.

March 26th. Temperature 103° in the afternoon. Pulse 122. She now developed an attack of erysipelas of the scalp, which became swollen and boggy. The thyroid was stopped, and lead and opium wash used.

April 9th. Erysipelas subsided. Gave thyroid tabloids, English, five grains, A. M. and P. M.

April 10th. Temperature 97° in the morning.

April 12th. Thyroid increased to five grains t. i. d.

April 14th. Temperature remained subnormal until to-day, when it ran up in the evening to 99⅘°.

April 15th. To-day the whole surface of the body suddenly became soft and moist, as if profusely sweating. The finger webs became white and soggy like those of a hand long immersed in water.

April 27th. Temperature rose to-day from 98°, to 100⅘°, the dose of the thyroid having been increased to 6 grains t. i. d.

April 29th. Temperature reached 99⅘° to-day for a short time, and then gradually fell to 97⅕°.

April 30th. Temperature again rises to 100⅕° in the afternoon.

May 1st. Temperature 101° in the afternoon, pulse 118.

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May 2d. Temperature 100½° in the afternoon. Ordered daily soda baths.

May 3d. Temperature 100°, pulse 100.

May 4th. Temperature 99⅘°.

May 6th. Temperature 101°. Pulse 88.

May 7th. Temperature 100°.

May 8th. Temperature 100⅕°.

It is noticeable on the temperature chart that the temperature always rises toward the afternoon, and is subnormal in the morning.

May 15th. As there is no positive improvement to-day after eight weeks of thyroid treatment it is abandoned.[1]

In these five cases we met with these untoward and undesirable symptoms: Headache more or less severe and continuous even with a dosage of two grains of powder t. i. d.; intense erythema, nausea, vertigo, lassitude, rapid pulse, and sharp rise of temperature.

As favorable action of the thyroid we saw increased scaling, moisture and suppleness of the skin.

Up to May 1st I have found only thirty-three cases of thyroid feeding in skin diseases reported in medical journals, most all English, as will be seen by a glance at the list of references below. These may be tabulated as follows:

Psoriasis	26 cases	10 cured. (1 relapse in one month.) 7 improved. 9 no change.
Xeroderma	2 cases	both improved. Scaling lessened, and perspiration increased.
Eczema, chronic	2 cases	1 cured; 1 no change.
Lupus vulgaris	2 cases	both improved. One has taken the drug more than a year.
Rosacea	1 case	no change.

Let us add to these the five cases reported by me now, namely:

Xeroderma	3 cases	2 improved. 1 no change.
Ichthyosis	1 case	very slight improvement.
Dermatitis exfoliativa	1 case	no change.

Thus up to May we have thirty-eight cases, with eleven cured, fourteen improved, and thirteen no change. When we remember how easy it is to see an improvement when we are looking for it, it is probable that we should discount the number reported "improved."

[1] As soon as the administration of the thyroid was stopped this patient made a rapid recovery. In six weeks she was discharged cured, excepting the hands and feet.

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From the few cases thus far published it would be foolish to draw conclusions. Personally I am not inclined to experiment further with this line of treatment. To cure ten cases of psoriasis out of twenty-six is no great thing to boast over, specially in hospital practice, as were most of the cases cured. When you take into consideration that the drug, in whatever way you exhibit it, is liable to produce sudden, distressing and grave symptoms, *that* at once bars it from use in out-patient, ambulant practice. We surely have many other safer methods of treatment in hospitals that yield more brilliant results than this method, so efficacious in myxœdema and cretinism. In these diseases it is worth while to run a risk as to life in the hope of removing symptoms that make life hardly worth living. In dermatoses, on the contrary, life is, generally speaking, little endangered, and we are not justified in resorting to too heroic measures.

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Discussion of Dr. Jackson's paper:

Dr. Fox: I think, Mr. President, that the conclusions which Dr. Jackson has drawn from his experience in thyroid feeding is very judicious. Personally, I have had no experience whatever in the use of this agent, and have not been favorably impressed with the literature of the subject. There is one point that I would like to call attention to, and that is the effect of putting a patient to bed and giving a regular diet under any course of treatment. Under such circumstances, cases of skin diseases are likely, if not bound to improve in a reasonable length of time, and if persisted in, in cases of psoriasis at least, they generally get well under almost any treatment. In looking over the English reports of the value of thyroid feeding it has struck me that if these same cases had been taken and put in bed and given any other intelligent treatment or no special treatment, probably as many cures and as brilliant results would have been effected as are reported from the result of thyroid feeding.

In the use of this drug it seems unfair to begin its use immediately upon the admission of the patient to the hospital. It would seem far

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better to me, if we want to get an exact knowledge of the facts and a knowledge of the value of this or any drug, to leave the patient in the hospital, for a few weeks at least, on any indifferent line of treatment before beginning the use of the remedy.

I have learned in private practice, as well as in dispensary practice, that before judging of the effect of any remedy or treatment, it is necessary to have a pretty definite idea of what would be the natural course of the disease under ordinary circumstances.

DR. HARTZELL: My experience with thyroid feeding in skin diseases has been a limited one. I have employed this method of treatment in a few cases; as I recall them now, in a case of eczema and two or three cases of psoriasis and, I believe, a case of ichthyosis; and in not a single one of these cases did I obtain any beneficial effect whatever, either upon the skin eruption or the general condition. I used the dessicated thyroid, prepared by a well-known manufacturing drug house, given in five grain doses two or three times a day.

This treatment was carried out for several weeks in some instances and no appreciable result was obtained. So that it seems to me that in those cases, where a favorable result has been noticed, it may have been due to some other cause. My experience with this method of treatment is limited and, perhaps, not sufficient to base any definite conclusions upon.

DR. STELWAGON: My experience has also been limited. I have employed the treatment in two cases of psoriasis, in one case of dermatitis exfoliativa and in one case of pityriasis rubra pilaris, and in none of these cases did I see the slightest benefit. The use of the remedy was continued about three or four weeks, beginning usually with five grain doses of dessicated thyroid and increasing in almost all of these cases to twenty grain doses three times daily. There was no effect upon the eruption, but some effect upon the condition of the patient; there was a general feeling of being unwell, a certain amount of distress and nausea, and all of the patients discontinued the drug with a great deal of pleasure. In one instance (psoriasis case) œdema of the legs and feet was noted to follow its administration.

DR. HYDE: I have ventured somewhat on this field. I would add to what Dr. Fox has said that the element of season is to be considered. We all know that as warm weather comes on, especially in spring, the amelioration of scaling diseases is sometimes very marked.

I have tried thyroid feeding only in psoriatic cases, and have used only the preparation furnished by the laboratory of Armour & Co., who I find supply most of the drug houses throughout the country. It is the dessicated article, and thinking to make a little variation in the method I began with large doses and as required reduced to the smaller. I have here a record of ten cases of psoriasis, in which I tried it; it chanced that the patients were all males. They represent some medium and some severe cases of the disease. The average weight of the patients was one hundred and sixty-three pounds; the average length of time they suffered from the disease was thirteen years; the average age was thirty years. Those admitted as new patients, who used the thyroid extract, were given no local treatment; but those previously under my care, who had been employing local treatment, did not have that treatment

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changed, while the thyroid feeding was in progress. There was one experiment which was interesting, as showing that the article under discussion is posessed of considerable power. This case is not included in the list of the ten referred to, but is that of a female patient suffering with eczema of the hands, who, while the thyroid experimentation was in progress, and on account of the presence of a large thyroid gland was treated as were the ten psoriatic patients. She was made very ill by the remedy, administered in ten grain doses. She told me that at one time she could scarcely drag herself out of bed; her temperature went up; she had rheumatoid pains, limited to the right shoulder; and when I examined her, she was a very ill looking woman. She had one of those large and very conspicuous goitres which project forward. It diminished in size, by actual measurement, during the time she was taking the thyroid extract, three-quarters of an inch in fourteen days. The scalp and hand troubles were decidedly aggravated by the use of the remedy, but she returned as soon as she could for another course of thyroid feeding, as she was a young woman, and the improvement in her appearance from the reduction in the gland pleased her very much.

Of the psoriatic patients two exhibited such unpleasant symptoms, that I was convinced that the remedy was a dangerous one to use. In the other psoriatic patients I saw no benefit accruing to justify me in any further use of the remedy. One who had come from Minnesota was much improved on going to a warmer climate, under the influence of the weather, and the open air, not manifestly from the remedy.

Some of the others improved moderately, but no more than I should expect patients to do under the usual treatment.

My conclusion is, that it is hardly worth while to try the thyroid feeding any further in such diseases of the skin as were selected for experimentation.

Dr. Corlett said he had no personal experience to offer on thyroid feeding, but recently had the pleasure of conversing with some of the English gentlemen cited by Dr. Jackson, and who are still interested in the experiment, from which he inferred there was a tendency to discontinue its further use. The disease most recently experimented upon was lupus vulgaris, and they still hope to obtain some benefit in this affection. On the whole, however, he quite agreed with the reader of the paper and saw no special reason why it should be adopted.

Dr. G. H. Fox, of New York, read the next paper on

THE RARE FORMS OF ALOPECIA.

Instead of quoting what others have written, I prefer to limit my remarks to the personal observations which I have made in a number of these cases of folliculitis decalvans. I have photographs on glass which, I think, will prove more instructive than anything I could say.

(The doctor then exhibited the photographs, calling attention particularly to one typical case of folliculitis decalvans in an advanced stage, showing a large depressed pigmented cicatricial patch, and continued): From

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a study of these cases it seems to me that the disease begins by the formation of one or more tender elevated hyperaemic patches, usually small and circular or oval in shape. This tenderness disappears in a short time and a more marked folliculitis takes place; but later in the course of the disease, when the tenderness has generally disappeared, there will be a slight tenderness still remaining at the margin of the patches. In all these cases the inflammatory plugging up of the follicules seems to be an essential condition of the disease, and hence the term folliculitis seems proper, the destruction of hair which results in the course of time justifying the use of the adjective decalvans. The hairs loosen and at times, as in alopecia areata, they can be pulled out at the margin of the patch, twenty or thirty in a bunch, without pain. The root sheaths are often attached.

Here is a blue print (exhibiting it) showing where some of these patches have run together and where the hairs were quite loose around the margin. In some cases a large number of small patches will exist in a limited area and will gradually coalesce. In other cases one large patch will be formed, and from this little prolongations will develop at the periphery, gradually uniting with the larger patch.

In this case (illustrating with photograph) the lesions are very apparent, and in nearly all of these cases the crown of the head seems to be the part mainly affected. I do not remember a single case where the occiput or temporal region was involved.

In the early stage the only point in which it differs from a case of alopecia areata is in the redness of the patches, and later in the peculiar sinking or atrophy of the patch. This atrophy goes on until in some of the larger patches we have a cicatricial condition, a tense, drawn appearance, and in that case (referring to photograph) a very marked pigmentation. The dark brownish color persists, no matter how long salicylic acid is used. In the vicinity of the patches the follicules are affected, but do not seem to be particularly involved. They are plugged up, however, and the term keratosis might be correctly applied to that condition. It is a question in my mind whether this keratosis precedes the inflammatory condition or whether the disease is essentially inflammatory in its origin.

I have seen the affection in men, women and youth, and in nearly every case, and notably in the few cases which I have studied most carefully, there has been a general nervous condition which was very marked. Whether this is essential to the disease is a question which it would be difficult to determine without observation of a large number of cases.

As to the treatment of the affection, I may say that my treatment has improved some cases, but it has been very unsatisfactory. The

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application of strong salicylic ointment has made the patches look better, but whether it had any real effect upon the progress of the disease would be difficult to determine. In fact, I know of no plan of treatment which could be recommended as curative. I believe, however, from my experience, that shaving the patch and applying strong salicylic ointment (ten per cent.) is, perhaps, the best plan that can be adopted.

DISCUSSION.

DR. ZEISLER: I am frank to say that this term has been known to me only for a few years. I had never seen in Vienna any case so designated. The cases are very different from ordinary alopecia areata. I have seen at least half a dozen of these cases, and without an intimate knowledge of the subject I had classed them as folliculitis decalvans. But the pictures of Dr. Fox are so excellent that now, looking back at those cases which I have so designated, I feel sure that I have made the same diagnosis as Dr. Fox would make. I have been particularly struck with the peculiar rough condition of these patches.

I have seen one case in which the diagnosis folliculitis decalvans had been made in New York, where a man was really suffering from favus, and the thought occurred that favus, after the removal of the scales, might resemble this condition closely.

DR. HYDE: I believe that some of these scar-leaving alopecias may be tuberculoses of the scalp. I see no *a priori* reasons against this view. We know that there are different forms of tuberculosis of the skin. We also have some odd varieties of lupus erythematosus, and occasionally they spread over the scalp, leaving a peculiar looking scar. Some of these rare forms of alopecia may be varieties of lupus erythematosus. Syphilis also is a disease which displays scalp anomalies. Now, when we look at an inflammatory disease of the skin, we do not usually expect that it is going to leave a scar, certainly such an accident is rare. Why should the scalp be an exception to the rule? I think we have a group of disorders here which are to be resolved into the etiological and pathological conditions of other diseases of the skin. I think we shall one day have a pathological basis for studying them, not ultimately grouping them all under the one title of folliculitis decalvans.

DR. SHERWELL: I think in regard to the cases and affections given by the Doctor that a good many different etiological factors are present in the different cases. As regards folliculitis decalvans, Quinquand was one of the earliest writers on the subject; he considered it frankly syphilitic, though an unusual manifestation, and used, as he considered it, an almost specific remedy, white precipitate ointment. I think in some of these cases there may well be a minute discoid erythematous lupus present; we see evidences, at least I have, in one or two cases of distinct erythematous lupus in the more hairy portions of the face and head, which have no tendency to confluence, so do not see why the same condition might not appear on scalp.

DR FOX: I omitted to state that in this group of lesions the hairs are generally broken off, and project a short distance above the little cone

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of horny tissue; the adjective hystrix might be as applicable to this condition as in certain cases of ichthyosis. I did not mean, as might possibly be inferred from my remarks, to claim that all these rare forms of alopecia should be associated under the term folliculitis decalvans, but, on the other hand, I would rather associate distinct diseases under one name than have the names multiplied by every man who comes across a peculiar case, as seems to have been the tendency of our French colleagues. Some years ago, I think, many of us would have been content to class all cases under the term alopecia areata. Since then certain cases have been found which we recognize as distinct in nature. The term folliculitis decalvans is one, I think, which we can apply to these, and if we happen to get over the border line of some other disease, it cannot do any great harm for the present. No doubt, distinct forms will be described. but most of the cases that have fallen under my observation can be classed under the term folliculitis decalvans. The only further point that I desire to make is the possibility that some of these cases may be allied to erythematous lupus. We all see cases with red scaly patches on the scalp, co-existing with patches on the cheek, and I must say that some of these bear a strong resemblance to folliculitis decalvans, except that the projecting hairs from the horny cones are never met with.

As regards syphilis, none of my cases had any syphilitic appearance, nor was there any suspicion that the patients were syphilitic. I cannot associate this disease with syphilis.

Drs. J. Abbott Cantrell and Emanuel Stout followed with a paper on

A CASE OF FAVUS OF THE HEAD AND BODY.

According to the statistics of the American Dermatological Association, favus has been witnessed in 707 cases (one-third of one per cent.) out of 205,328 consecutive cases of diseases of the skin for the years 1877 to 1892, inclusive.[1] These figures show that the disease is rare in this country. It is met with, however, not infrequently among the lower classes of the recently arrived foreign element. The affection is much more common in wet and rainy cities. According to McCall Anderson, 118 cases occurred (in 6,451) in Glasgow. Purdo gives its frequency in the proportion of 14 in 3,000 in Belfast. Erasmus Wilson met with it in only three cases in 10,000, while Crocker saw only one in 2,000 in

[1] It would appear from a perusal of the literature of favus that the credit of discovering the fungus has been given to Schoenlein (1839), while in reality his observations were not completed until three years after Remak had discovered the fungus (1836). Later the fungoid character of the disease was studied by Fuchs and Langenbeck, of Gottingen, and still later by Gruby, of Vienna, who claimed not to have had any knowledge of the researches of Schoenlein.

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London. Thus it will be seen that favus is rare in England, but common in Scotland. It is also frequently seen in France. (Feulard states that about one thousand conscripts yearly enjoy immunity from military service on account of favus.) It is very frequently met with in Poland as well as in Italy, especially the southern part. Among the Jews—particularly the men—living in Russia, Poland, Hungary, Galicia and the Levant, and also the among Mohammedans living in Turkey, Asia Minor, Syria, Persia, Egypt, Algiers and Morocco, the disease is often encountered, and is attributed by Hirsch to the habit required by their religion of keeping the head constantly covered.

The disease, while usually affecting the scalp, may also occur upon any part of the body; although Charpy, as late as the year 1874, mentions as one of the diagnostics of the affection that it is limited to the scalp, which is evidently an oversight, as Bateman, about 1818, in his original delineations of the affection (porrigo lupinoso), stated that he had witnessed the presence of favus upon the shoulders and upper portion of the back. Following this writer, Alibert, in 1825, also recorded cases occurring upon portions of the body other than the scalp. Rayer, in 1845, and Kleinhans, in 1864, had encountered favus on the face, while Pick, in 1869, considered the occurrence of favus on the glands and sulcus of the penis as very strong evidence against the almost general belief that it is confined to the hairy parts alone. Hebra, previous to 1873, had also observed the disease upon the palms of the hands and even on a stump after operation.

Horand says that the scalp is not the exclusiue seat of the disease, and that he has often seen it on other portions of the skin. He states that when it occurs on the general surface it does not occur in disseminated cups, but very often in erythematous patches of varying sizes, covered with scales. Bazin describes these erythematous patches as being circinate, their periphery being bordered with small vesicles or crusts (see cases by Havas, Anderson, Jackson and Pick), while the centre seems nearly normal. These patches are very itchy, consequently it is easy to mistake them for tinea circinata. But if the case is followed up for some time the characteristic cups will be found to form around the hairs. Horand states that favus may appear upon the body and limbs without being on the scalp.

According to Kaposi, "not only may favus occur upon parts which are without hair, in the ordinary sense, that is, which have only fine lanugo hairs, but also upon parts which have really no hair, but where there are follicles; and there is not a single spot, the glans penis, palm of the hand, or sole of the foot not excepted, on which favus has not been seen." "When favus is met with in parts without hair, especially

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on the trunk and extremities, it is generally accompanied by favus of the scalp. There is no doubt, however, that isolated patches of favus may arise independently on parts of the body mentioned without the scalp showing or ever having shown any traces of the disease. (See case of Roddick, which had existed three years on non-hairy before attacking the hairy parts.)

The cicatrices which remain after the favic crust resemble those of syphilis, but are diagnosed from the latter by a fawn-colored tinge, which rarely exists in the brownish scars of the latter disease.

The following case, which we are about to describe, is, we believe according to the literature on the subject, the second one showing such extensive lesions which has been observed in this country, and it will be the eighth that has been reported:

John Janoni, born at Mundale, near Villini, Italy, March 24, 1883; his parents are living, and six brothers and three sisters, all older than he, are free from this affection. He first noticed the disease on shipboard, two days out, on his emigration to this country, two years ago. It began on his head and did not spread to the body until five months ago.

Present condition (December 24, 1893): the patient, a rather tall boy for his age (10 years), measures five feet in height, and is fairly well nourished, weighing about one hundred pounds. Owing to the boy's inability to speak English and the Italian interpreter's slight acquaintance with that tongue, considerable difficulty was experienced in obtaining a good family history. The patient is a typical Italian in appearance, having the olive skin, dark hair and eyes peculiar to that race. There exists an ectropion of the lower lid of the right eye. On the head the disease affects the whole hairy portion of the scalp; on the apex and in a circle of four inches radius about it are decided atrophic scars, depressed, smooth, white and shiny. The whole head is covered with marked crusts, and while the lesions are elsewhere cup-shaped, this formation is not so evident in the above-mentioned area. Other than on the above-mentioned locality the scalp is fairly well supplied with hair, one-half to one inch long, but dry, uneven, lustreless and brittle. The lymphatic glands of the neck, and in both axillæ, are quite enlarged; pediculi can not be found on the scalp.

On the body the disease affects particularly the back and sides, the abdomen, chest, face, hands and feet being free from the disease. Careful examination of the nails on both hands showed them to be unaffected, and they presented a glossy, healthy appearance. The thickened, yellow, opaque and brittle condition of the nail substance, as noticed in cases of tinea favosa unguium, was entirely absent. On the back, a large patch, four inches broad, extends from near the spinal column on the left side,

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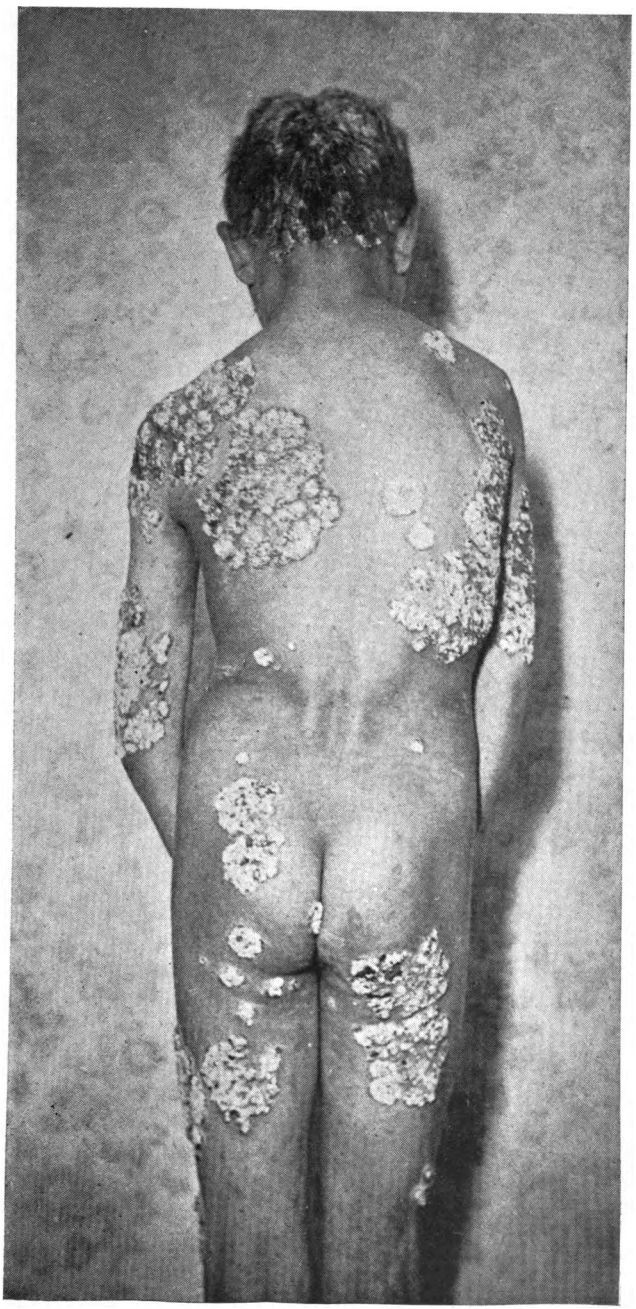

FIG. 1.

Favus of the Head and Body.

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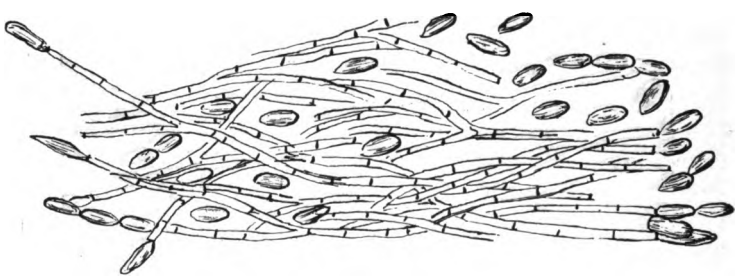

FIG. 2.

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at the level of the sixth dorsal vertebra, up to the insertion of the posterior axillary fold. On the outer surface of each arm is a collection of lesions, two inches long, ending just above the external condyle of the humerus, that on the left arm extending slightly lower than the other. At the level of the tenth dorsal vertebra a patch begins on the right side of the back and runs to about one and a half inches below the spine of the scapula, being about three and a half inches wide. There is a lesion the size of a dime near the acromion process; one the size of a half-dollar near the inner end of the spine of the scapula, one the size of a dollar and another the size of a quarter-dollar near the spinal column on the level of the seventh rib. In both lumbar regions there are nine scattered lesions, varying in size from half a pea to a lima bean; among these are some very perfect small crusts, elevated about a fourth of an inch from the surface at the edge, rising with concentric rings from a pin-point erection in the center.

There are two circinate patches close together on the upper part of the left buttock, each one and a half inches in diameter. About the left gluteal fold are scattered seven patches, varying in size from a half pea to a dollar. About halt way down the left thigh are five patches, each from one inch to three inches in diameter, irregular in shape, together almost encircling the leg. On the outer side of the leg, just above the knee, is another, two and a half inches in diameter. From the right gluteal fold there extends downward a patch, irregular in outline, about five inches long and three inches broad. A small patch, the size of half a dollar, is just above the outer hamstring. On the lateral and anterior surface of the left leg there are five patches, running together, varying from half an inch to five inches in diameter. On the right leg a patch one and a half inches wide and four inches long runs from the middle line of the gastrocnemius (three inches below the popliteal space); downward and forward, and just below this is a separate patch as large as a half-dollar, in the median line of the leg. The front view of the patient shows, in addition to the parts of the above lesions that extend around, two half-dime sized patches on the right deltoid, and one in the middle of the left biceps, also two irregular small patches in the median line of the right thigh, half way down. The lesions are all small and covered with yellow crusts, resembling dried mortar, and for the most part cup shaped, and can be readily pulverized between the fingers. Where the crusts have been accidentally removed a reddened, rough, atrophic condition of the skin is revealed. On the right buttock, near the rima natium, an atrophic, roughened and depressed scar, marking the site of a former lesion, is seen. The mouse odor is very noticeable, even at some distance from the patient. A man in the venereal ward, on the same floor as the

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skin ward, contracted favus while our patient was in this department, although it could not be said positively that he had acquired it from him.

A portion of the crust taken from one of the lower legs was handed to Dr. David Bevan, whose report is herein included:

Report of DR. DAVID BEVAN: "I examined the crusts you sent me, and find that they consist of a dense interlacement of long, narrow filaments and small ovoid and spherical bodies, imbedded in a dessicated serum. On further investigation I believe these filaments to be the mycelia and hyphæ of the favus fungus, and the ovoid and spherical bodies their spores. In my investigations I made microscopic examinations of stained and unstained specimens from the crusts and also culture experiments. In every instance the diagnosis of favus was confirmed."

Of the cases affecting the non-hairy parts we have endeavored to collect as complete a list as possible, and from the literature at our disposal we have been enabled to include in this report fifty-four cases, which we propose to group as follows: *a*, those affecting the non-hairy parts of the body alone, and *b*, those located on the hairy and non-hairy portions.

Of the former variety we note cases recorded by Bateman about the year 1818, of which we cannot find the original report. In 1825 Alibert reported two cases, the one occurring in a man, æt. 30, in whom the lesions were present on the outer side of the thigh, the other in a girl, aged 20, which involved different parts of the body. Rayer mentions the case of a man who presented a single but perfectly characteristic crust of favus on the outer side of one of his legs. This writer also quotes the case of a woman who was in the habit of carrying one of her children affected with favus. After a time there developed on the fore-arm that supported the head of the child a small patch of favus. Rayer again refers to several remarkable cases of favus transmitted by contagion, published by Messrs. Mahon. Several other cases are likewise recorded in the *Journal Hebdomadaire.* Nine of the remaining cases affect portions of the face and are described below as follows:

H. Schiess-Gemuseus refers to a case affecting the upper eyelid, in a girl, æt. 13. The inner half of the upper eyelid was covered with a yellowish-white, dry crust, which extended below, somewhat over the internal marginal part and above the tarso-orbital fold. About the middle of the crust, between its superior and inferior margins, is a triangular crust which forms the entrance to a cavity about 3 mm. in depth.

Bulkley records four cases, one in a girl, æt. 15, in whom a hard, irregularly shaped, depressed mass existed under the left eye, one-third inch in length and one-fourth inch in width, surrounded by an inflammatory red border and suggesting nothing of the cupping spots of characteristic favus; taken between the fingers it felt hard and seemed

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to involve the entire structure of the skin. Later a patch resembling tinea circinata developed. The next case, almost identical with the preceding, was that of a man, æt. 20, in which the lesion was under the left eye, the crust showing the fungus. In a third case, a girl, æt 2, the lesion was over the left eyebrow and presented but few of the characteristic cups.

The last case was that of a boy, æt. 11, in whom the lesions were noticed on the right cheek, near the chin, and consisted of a group of irregularly formed yellowish cups, like crusts, and having a margin of red and scaly surface surrounding them in an irregular circle for about an inch.

Two other cases were witnessed by Fink, who observed the disease, affecting only the cheek, in a boy, æt. 12, and in another æt. 7.

Von Rossi records the case of a child, 7 years of age, who had a small spot on the right cheek which was crusted and very tenacious.

In a case reported by Derville he found a favic lesion on the forehead; a second lesion was situated on the level of the external angle of the right eye. There existed two red spots on the level of the neck; the lesions did not present the same appearance. The eruption on the forehead was formed of seven or eight cups and the form was characteristic, despite the coalescence; that on the external angle of the right eye was grayish in color. There existed under the chin a rounded patch of very red color, and showing fine, slightly adherent desquamation on the surface; the lesions were the size of a franc piece. The fourth lesion was situated on the right half of the neck.

Four other cases affecting the upper part of the thorax are recorded, one by Kaposi, occurring in a boy, in whom there existed thirty spots on the anterior and posterior part of the thorax, resembling herpes tonsurans, ranging in size from a lentil to a penny. In the centre of several of these were favic scutula, the size of a poppy-head; in the centre of a plaque on the shoulder a favus scutulum the size of a pinhead was visible.

Another case observed in a girl, æt. 13, was presented by Fox to the New York Dermatological Society, in whom forty patches of non-confluent lesions were visible, varying in size from a penny; others of more or less extent, which showed slight elevations at the edge and were covered with small, thin scales of epidermis. A patch, oval in shape and of larger size, resembling ringworm, was situated on the left side, beneath the clavicle. The scalp was free. Some of the patches on the left breast showed scutula of pinhead size, with depressions in the centre, and small spots of yellowish color were visible at the follicular openings.

A third case, by Schweninger and Buzzi, was that of a girl, æt. 12, in which a typical favus scutulum was situated on the right anterior half of

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the breast, and later there developed beneath the old scutulum a round, rosy-red spot. The head was not affected.

Havas reports a case of a child of six years who was affected with favus on the right half of the breast; the lesions also showed the herpetic primary stage.

Jamieson reports the case of a child with one patch of favus the size of a shilling on one shoulder, the microscope confirming the diagnosis.

In the case of a boy 9 years of age, described by Debreuilh and Sabrazes, there existed one small plaque on the right arm, above the elbow, the size of a two-franc piece.

Two cases in which the condition was situated on the fore-arm: The first, described by Reynolds, in a child of 7 years, in which the patch was round, three-fourths of an inch in diameter and situated on the flexor surface of the fore-arm, slightly below the median line. In the centre of the patch was a favic crust one-fourth inch in diameter; three or four smaller cups, the size of the head of a pin, were scattered through the patch; otherwise it resembled tinea circinata, and the second, by Fink, who observed it in a boy of nine years, and in addition to having two spots on the right fore-arm had one patch upon the back.

A unique case is reported by Jackson, occurring in a male of 19 years, in whom the eruption was limited to the left hand. It occupied the inner edge of the hand, extending slightly upon the dorsal surface, and also between the little and ring fingers, spreading nearly to the second joint of the third finger, being circular in shape. The patch around the edge showed well-defined vesicles; upon the back of the hand, in one place where the vesicles did not appear, there were four perfect favic crusts and one imperfect one; within the circle the patch was scaly and otherwise unaltered.

We quote two cases affecting the abdomen, one by Campbell, in a child two weeks old; the lesion was situated on the right side of the abdomen, immediately below the border of the last rib and to the inner side of its angle, and was one half inch in diameter. The crust, when removed, left a denuded surface, presenting a cup-shaped depression. Nothing definite could be ascertained as to the source of contagion.

Another, by Smet, who noticed favus on the abdomen of a nurse who had been attending a child fifteen days old, which also had the disease—presumably since birth.

The two following cases are taken from Bulkley's report. One was noticed in a girl, æt. 11, who presented a patch on the left loin, just above the level of the sacrum. An oval patch of disease occupied an area of one square inch, on which were situated a few very characteristic and sharply defined favus cups; the rest of the area was occupied by a scaly,

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erythematous eruption, circling around the cups. No patch was seen elsewhere on the body or head. The other case was in a boy nine months of age, in whom a red, erythematous and scaly patch was visible on the left buttock; it was nearly circular, and about one and one-half inches in diameter; the margins were defined, with the centre clearing up; scaling existed on the outer border, which was inflammatory in appearance; no cups were present.

We also add four cases affecting the genitalia and the surrounding parts. In the first, recorded by Pick, the lesions were present on the glans penis and sulcus coronarius. There were also erythematous spots of small size near the root of the penis and the scrotum, and the internal surface of the thigh. These patches were marked with small elevations, arranged in a circle, and by vesicles; the lesions were crusted, the spots on the scrotum presenting a similar appearance. The second case, described by Bulkley, showed favus on the penis, scrotum and thigh; upon the penis and some parts of the scrotum well defined, small favus crusts were visible. White, while commenting upon a paper by Sherwell, read before the American Dermatological Association, spoke of two cases in which he had seen isolated crusts upon the penis, and upon no other part of the body.

A case of favus in a girl, æt. 5, described by Bulkley, presented the following appearance: Small yellow cups were noticed on the right knee, depressed in the centre, and typical; they were grouped together with an erythematous redness, showing moderate scaling between and around them; another patch, behind the left ear, consisted of a worm-eaten, dirty-looking mass, of a light yellow color in some portions, and in others much darker, about half an inch long by one-third of an inch wide, firmly adherent by means of some hairs passing through it; the characteristic cups were not seen.

Fox also reported a case affecting the knee, of which he procured a good photograph.

In his text-book of Diseases of the Skin, Anderson gives an illustration of a case of favus situated on the general surface, one patch being erythematous, and the other surrounded by vesicles, in the centre of which the patch is covered with three or four favic crusts.

Coutard records a case (in the service of Dujardin-Beaumetz) of cutaneous favus, presenting seven or eight patches over the body, of rather uncertain character. (The diagnosis, from the description of the author, seems uncertain. EDITORS.)

In a paper read before the American Dermatological Association in 1893, Sherwell describes four cases of epidermic favus, occurring in the same family. The contagion could be traced to pet dogs which had con-

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tracted the disease from mice affected with favus. The two daughters of the family, aged respectively about 19 and 20, exhibited lesions on the arms, neck and breast. In the elder sister a patch existed on the upper and outer aspect of the arms, near the deltoid region, which were decidedly inflamed, and covered with sparse but characteristic scutula. The other patches, in the regions alluded to above, while showing a vegetable parasitic character, were not so well-marked, nor were they in the younger sister. The mother and a young son were also found to be affected.

Devergie reported the case of a young man who had been affected with favus of the extremities since early childhood. This individual had been suffering from chronic inflammation of the intestines, was in a very emaciated condition, and was attacked with severe diarrhœa. The extremities were flaccid and quite thin, and their entire surface was covered with a favus growth from which the characteristic mouse odor emanated. During his stay in the hospital the patient contracted typhus fever; after recovering from the attack the favus had completely disappeared. Unfortunately, after he commenced to take nourishment and to gain strength the favus reappeared, the intestinal symptoms returned, the man gradually lost strength, and finally died. (The result of the autopsy, if one was made, is not given; and if there was none it is very unfortunate.—EDITORS.) This writer also quotes the case of a boy, 5 years of age, afflicted with favus, whose mother contracted the disease on her fingers from washing the child's head. The two sisters of this little boy also showed evidence of this affection on the upper lip and on the fingers. Kleinhans states that the scutula may occur on all parts of the face, as the cheeks, eyebrows, nose and external meatus of the ear. He refers to the case of a woman under treatment in the hospital for syphilis, in whom a beautiful favus scutulum developed on the tip of the nose. He thinks it probable that the individual contracted it from an adjoining patient suffering from that disease.

(*b*) CASES OF FAVUS LOCATED ON THE HAIRY AND NON-HAIRY PORTIONS.

Alibert recorded the case of a woman, æt. 68, who showed, in addition to favus of the scalp, other crusts on the arms and thighs. Three other cases are also described by Alibert, two of which occurred in sisters who were Italians, aged respectively 5 and 7 years, showing favus of extreme severity upon the scalp, patches of disease on the eyebrows, temples, shoulders, lumbar and sacral regions, external upper part of the thigh and about the middle of the legs. The eruption occurred in the same localities in both children. The other was observed in a French-

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man (age not given), affecting the scalp, while numerous lesions were also present on the chest, abdomen, thighs, legs and arms.

Of the remaining cases, one is described by Roddick, of which he also gives a picture, of a girl, æt. 10, in whom the disease has existed for five years, then attacked the neck, spine of the scapula, upper part of the outside of the arm, forehead, abdomen, back, buttocks, anterior surface of the legs from hip to ankle, down the legs posteriorily and a large share of the front and side of the body as well. The eruption extended almost to the hands and feet.

The following cases, fourteen in number, developed first on the hairy scalp and subsequently spread to the non-hairy parts. Kleinhans speaks of the case of a young man suffering from favus of the scalp for eleven or twelve years; later the disease extended from the scalp to the face, and three favic scutula of different sizes occupied the left superciliary region.

Michel, in his report of a case of favus in a woman of 45, stated that the disease had existed forty-four years, being twenty-six years on the head before attacking the body. It first affected the axilla, then the breast, abdomen, hips and thighs. After removing the crusts the surface appeared red, with slight depression and covered with aqueous fluid. There was a spontaneous cure of all affected places after being delivered of a child; but within one year a relapse occurred.

In an extensive case, described by Baumgarten, the disease existed primarily on the head of a boy aged 17; after being in this locality for five years it extended gradually over the body, some of the crusts being the size of a nutmeg. The more recent of these were conical in shape, one-half to three-quarters of an inch in height, and of still larger size, others being of the circumference of a half-dollar. Some had dried and become fissured and warped so as to allow one to place a finger under the margin, when the crust could be easily removed, showing the skin beneath to be depressed, humid and of a dark color. At the beginning the spots were the size of a pin head and increased by confluence, or upon the periphery. The crusts were always dry; no pus at any time. Face, hands, feet and neck were free; back, arms and legs were covered with thick crusts; anterior surface not so marked. In this position a number of pigmentations were noticed which were left after a former attack of greater dimensions. He also speakes of a case (described by Dr. Engelmann seven years before) in which the crusts were small, the size of a pea, but flat and thin. The disease, which affected one side of the face and head, was communicated to the patient from his wife, who had favus of the head.

In Gaillard's case a woman, æt. 20, gave the history of having con-

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tracted favus at the age of 10, which remained untreated for nine years. The disease gradually spread to the back of the hands and wrists; some time later it appeared on the knee and later still on different parts of the body, invading the face. When examined the patient was found to be in an extreme state of debility and anæmia; there existed lesions of various kinds, some due to the original disease, others of a purulent character due to irritation, partly the result of pediculosis. The entire scalp was covered with crusts; the face showed at least thirty lesions of a highly characteristic description; some also existed on the neck, while the arms showed lesions circinate in development. There were also a few isolated lesions on the right hip and thigh.

The case presented by Kaposi and Kundrat to the Society of Physicians of Vienna on November 28, 1884, is regarded as decidedly unique, and gave the following history: It occurred in a man, æt. 40, at first on the head, the lesions being noticed on the upper eyelid toward the malar eminence; there were eight or ten scutula which were punctiform and of pin-head size, and one larger scutulum. The extensor surfaces of the upper and lower extremities were covered with almost uniform pin-head sized lesions, the margins being erythematous. On the trunk, near the nates, the lesions were irregular and disseminated, some being found in small groups. In three weeks the case became universal on the skin of the trunk and face, shoulders, knees, hands and buttocks. In many places circumscribed depressions were found, which were opaque and discolored. The patient succumbed to gastro-intestinal irritation accompanied by uncontrollable diarrhœa. At the post-mortem numerous erosions and diphtheritic swellings, resembling favus cups, were found in the mucous membrane of the stomach. When examined with the microscope the swellings were said to be due to the achorion.

Wickham refers to a case affecting both the scalp and the lower limbs; the plaques situated in the latter region were upon the anterior surface of the thighs, the knees and the lower legs, those in the last named locality extending as they passed downward over the lateral and posterior surfaces.

One other interesting fact in connection with the case reported by Wickham is that the man had the disease twenty-nine years before it attacked the body; since these parts were first affected, six months ago, the progress of the eruption has been very rapid.

Following this writer, Morris describes an extensive case of favus in a woman, 37 years of age, which began fourteen years ago as a small red sore on the head. A great portion of the back was covered with large masses of crusts. The nails of both hands and feet were affected, particularly those of the first finger of each hand and the great toes. On

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microscopical examination the lungs showed tubercular infiltration, but not the presence of the favus parasite. Still later, we find a report of three cases by Dubreuilh and Sabrazès, the first of which occurred in a boy, æt. 8, in whom there existed a typical favic scutulum on the right parietal protuberance and an impetiginous favus plaque on the occiput. Three months later favus lesions appeared on the surface, one on the nucha, four on the right jaw, one on the upper lip, one in front and below the chin, one on the end of the nose and one between the eye brows.

In another case, a girl, æt. 3, the hairy scalp had been the seat of favus lesions for fifteen months. On the forehead two well-defined plaques were present, about the size of a twenty centime piece. On the right cheek two similar plaques, the size of a pea, were noticeable, and on the bridge of the nose a similar lesion of the same size.

In a third case, a boy, 10 years of age, who had contracted favus of the scalp at an indefinite period, there appeared several months later a plaque on the right temple, two on the right half of the forehead; one of the latter was situated 1 ctm. from the border of the hair. His mother stated that analogous lesions, which had existed previously on the right cheek, had disappeared without treatment.

Three cases, which were probably contracted from a cat, and observed by Crocker, were witnessed in a poor and very dirty family.

CASE I.—A girl, æt. 7, besides having the disease on the scalp, showed patches on the shoulders and arms.

CASE II.—(Brother of Case I.)—Æt. 9; the disease began in front of the ear and in a month involved the entire head; it had appeared on the arms about the same time, having existed on the thigh for only one month. The largest isolated patches were the size of an ordinary pea and the compound lesions two inches in diameter.

CASE III.—Another brother, æt. 11½, had the disease one month, it being confined to the right parietal region.

The preceding writer also gives a case in which Hutchinson found the hair of the entire scalp destroyed, which persisted as a large scar. Lesions were also observed upon the face and fingers, while conspicuous crusts were seen over the body and limbs; none of these resembled favus, but the fungus was observed with the microscope.

In the following cases, numbering seven, the primary seat of the disease was not particularly mentioned.

Gull's case occurred in a young man, æt. 20, who was stunted in growth, and had the appearance of a boy of fourteen years. The disease was of fourteen years' duration, and affected the arms, scalp, forehead, temples, trunk and lower extremities. The crusts were nearly circular,

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the hair growing through some of the largest cups, one of which was two inches in diameter, elevated, and appeared to be formed of concentric rings, getting broader toward the base. Many of the crusts were cracked in all directions. There was a small lesion under the margin of the nail of the left ring finger; the nail was in part destroyed. If the crusts were removed from the body surface, the part beneath was tender, but not ulcerated; if they were pulled off before being perfectly mature, the skin would bleed.

In a case reported by Duckworth, in which the entire scalp was affected and marked thinning of the hair existed, the disease was also witnessed on the arms and legs, in small patches, and presented scars of a former attack of the eruption. The disease was said to have been cured as St Bartholomew Hospital, but it returned. The cervical glands were decidedly enlarged.

We find a case reported by Morrow, in a boy, æt. 13, who had been affected with favus for nine years. The father had married twice, and the children of the first wife had been given to a nurse, several of whose children had the disease on the scalp. The children of the father's second marriage contracted the disease from this boy. They all recovered except this one, who, upon examination, showed favus upon the head, the left upper arm, lateral surface of the thighs and legs below the knee, and the internal surface of the buttocks near the anus. The patient indicated various other portions of his body which had been formerly occupied by the disease, but from which it had disappeared.

Pick describes two cases: In the first, that of a boy, æt. 14, the hairy scalp was affected; favus lesions were present in several places on the face and back, particularly over the shoulder blades. Numerous scutula had also developed on the nates and the posterior surface of the thighs.

In the second case, a man, æt. 20, who occupied an adjoining bed in the same ward, characteristic scutula appeared almost in the same localities.

In the case of a woman 36 years of age, recorded by Fabry, the disease had existed for eight years; the head was covered with numerous lesions, while scutula were observed over the neck and right scapular region, being the size of a five-mark piece. There was marked ectropion of both upper eyelids.

Havas reported a case before the Medical Society of Buda-Pesth, affecting the head and showing isolated scutula on the trunk. Surrounding some of the smaller of these there was perifollicular inflammation, and in places a herpetic primary stage.

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A number of experimental inoculations with the achorion have been performed, and a short account of some of these, with those of accidental inoculation, is appended.

Peyritsch has recently inoculated persons with favus under the epidermis without result; where the epidermis had been blistered and the favus introduced, he was also unsuccessful. He was successful, however, if he introduced it directly into the mouth of the hair follicle by means of a puncture with a needle, and a drop of water in which a particle of favus had been placed for several hours and then allowed to evaporate.

In ten cases in which the experiment had been performed, six were somewhat successful, as follows: Numerous scutula followed, preceded by slight formation of vesicles. In one case scutula formed and also excessive development of herpetic groups; the circles kept enlarging for two weeks after the favi had disappeared. In three cases scutula were not developed. Once only papular efflorescences were developed, which disappeared in three weeks. In anothes case redness and swelling of the follicles followed, which decreased on the fourth day and then increased; on the eighteenth day circles formed and were covered with scales. In one other inoculation herpes alone formed, which was followed by vesicles at the margin, and these increased in three weeks.

In an experiment upon his left arm, Van Harlingen, in 1871, scraped the epidermis and pressed some of the favus crust into the moist surface, as in vaccinating. The spot was covered with a watch-glass and secured with adhesive strips. The part was undisturbed for a week or ten days, at the end of which time a distinct yellow characteristic favus cup was seen to have developed at the point of inoculation. This was shown to the class of the University of Pennsylvania at Dr. Duhring's clinic. The following day (the 11th) the watch-glass was removed; no treatment was employed, with the exception of a daily cold shower bath, without soap. The eruption soon disappeared.

Nine or ten successful experiments have been performed on the limbs by Horand.

Bulkley inoculated the arm of one of his assistants, and six weeks later distinct favus cups appeared; there were three or four, beautifully formed, though none larger than the head of a pin, and around these a scaly erythematous halo.

After washing the parts, and shaving the right forearm, Fabry scraped the skin with a lancet, and inoculated. A few days later an erythematous circle appeared the size of a five-mark piece, and ten days later herpetic lesions; after nineteen days, five scutula, the size of half a lentil, made their appearance.

A distinct crust was observed in each case, by Pick, after inoculating seven persons with one crust of favus.

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It is undoubted that many cases have been contracted by accidental inoculations, and it is a well-known fact that many of them are unrecorded; of those recorded, we quote a number:

Rayer observed the affection in a woman who had contracted it from the head of her child while carrying it on the affected extremity. A woman, according to Devergie, contracted it upon her fingers after washing the head of an affected child. Another interesting inoculation, stated by Kleinhans, occurred in a woman who had syphilis and was supposed to have contracted favus upon the tip of her nose from a patient in an adjoining bed of the ward; and in addition to the case reported by the authors in which a patient in an adjoining ward contracted the disease, we find similar circumstances mentioned by Pick, and two instances recorded by Hutchinson.

Engelmann, quoted by Baumgarten, recorded the case of a man who contracted it upon the sides of the face, from the head of his wife.

St. Cyr describes an accidental inoculation on his own hand, as follows: "The epidermis, to the extent of a silver five-franc piece, is of a yellowish discoloration, thickened, corrugated and split; at the margin of this circle is situated a ring of vesicles filled with clear serum, scarcely the size of a lentil or pea. On close inspection, the lanugo hairs are seen to be surrounded with yellowish pin-head sized scutula, which are slightly depressed in the centre, and look as if they had been made with a needle."

Twenty-eight cases of children affected with favus by accidental inoculations were observed by Horand.

It may be well to mention that Alibert and Von Rossi think that before inoculation there must have been an abrasion of the part.[1]

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[1] The authors are indebted to Dr. H. W. Stelwagon, of Philadelphia, for the photograph accompanying this article.

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DISCUSSION.

DR. G. T. JACKSON: I am very glad that Dr. Cantrell has made so careful a report of so interesting and uncommon a case. During the past five years I have seen a good many cases of favus of the head in my service at Randall's Island Hospitals, but none on the general integument. I recall now only one case of favus of the so-called non-hairy parts, and that was on the hand of a man who contracted it from mice with the same disease. In this case the vesicular ring described by Kobner and others was well marked. In this connection I would say that in my wards on Randall's Island I have never seen a child with favus and trichophytosis at the same time, though no effort is made to isolate the

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cases, one from the other. It would seem that one form of fungus prevented the growth of the other.

DR. GRINDON: I would only like to know whether there is any difference in the appearance of the fungus.

My recollection of the matter is that it was said that the fungus found on the mouse is the same as that which has been found on the long haired parts.

DR. ZEISLER: Cases of this kind are exceedingly rare. The chief interest of Dr. Cantrell's researches lies in the extra-capital location of favus. When favus occurs on the head, it seems possible that other parts of the body might become involved through artificial transmission. The primary occurrence on places other than the head is, however, much more remarkable.

I remember one very extraordinary case of this kind in the nails of the toes. The subject was a coachman, used to working around barefooted in a stable, in which, evidently, rats and mice were making their abode. He worked in this damp straw and caught the affection in the toe nails. It seems to me that such extra-capital localizations, without any primary affection of the scalp, are particularly interesting.

I want to say as regards Kaposi's case, the microscope settled that question definitely; and while we cannot very well explain how the favus germs may live and thrive on mucous membranes, without being exposed to the air, still the fact remains and cannot very well be doubted.

DR. CORLETT stated that he had seen only one case of favus of the so-called non-hairy parts, and that extended from the scalp over the face. He regarded it as of rare occurrence.

DR. WIGGLESWORTH: Favus seems to flourish by predilection upon the hairy scalp, and the difficulty of inoculating it upon the skin elsewhere is thus explained. This difficulty in inoculating favus upon the skin was shown pretty well by some experiments made by Dr. White and myself a number of years ago. We tried it on a man by every possible means in vain, and only when using the crust in the form of a powder, and when that was picked into the hairy follicles of the arms, were we enabled to make the parasite take and to get well formed favus cups with afterward some slight extension of the disease, which, however, subsequently yielding readily to treatment and never returning after the cure was effected. There seemed to be a special weakness or vulnerability of the hair follicles and a special difficulty in making the spores attach themselves in other places, and in these other places the duration of the attachment was consequently limited.

DR. HYDE: My experience has been that favus does not yield readily to treatment, and that the body cases are rare. Last year a child six years old was brought to me by the agent of one of the organizations for the reclamation of destitute children. The scalp was covered with favus crusts. The child, a Newfoundland dog and a woman, living together in one cellar, were all suffering with the same disease. Afterward an elder brother of the child, who had favus, was brought to the clinic. If my memory serves me aright, he was 22 years of age. He stated that he had had the disease since birth. We know how much reliance can be placed on such statements of patients, but I had little doubt that for the larger

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portion of his life the disease had had unchecked opportunities to extend over his body. He had been living under the most unfavorable circumstances. The disease, however, was limited strictly to the scalp, and there was no evidence of it on any other portion of the body. Of course it had spread over the whole scalp.

I have seen one other case in which, I think, the disease lasted seventeen years, unchecked, and, for the most part, untreated, but there was no evidence of it on any other part of the body.

DR. STELWAGON: This is the first case of generalized favus that I have seen; I have seen it limited to one or two patches upon so-called non-hairy parts. The case referred to by Dr. Cantrell came under my charge for treatment; for a month or six weeks alkaline baths and sulphur ointment were actively used, and the treatment was then discontinued for eight to ten days. The cups began to be reproduced, not over the whole extent but in certain patches, and although the patient had all the advantages of hospital treatment, it was not until two months or more that the general surface was permanently relieved. In this case there was no atrophy, or very little atrophy of the non-hairy portions, but a marked staining was left that has not yet entirely subsided. As to rebelliousness of the disease upon the scalp I agree with Dr. Hyde. I do not know that I have ever permanently cured a case of favus of the scalp.

DR. HYDE stated that his experience, including one case in which he had had the patient under observation daily for months, led him to believe that all parasitic treatment was effective, and none was promptly curative, and that he had found it advantageous to change the treatment, giving bichloride one day and sulphurous acid the next.

DR. STELWAGON stated that he had not meant to say that there had been no improvement. There had been a betterment and final cure might result in length of time; but if treatment was employed for several months only the disease almost invariably returned.

DR. SHERWELL: I have been much interested in the consideration of favus, having had an exceptionally large number who have received the contagion from the lower animals (*vide*, American Veterinary Review, Nov., 1892). I am rather surprised at the statements of some of the gentlemen who have spoken, in regard to its positive or relative incurability even when situated on the scalp where we recognize it to be most intractable. I think my records and observations show many cases of cure in this situation, and I have now in mind a little Italian boy treated very recently by one of my assistants, who certainly seems cured. In cases of favus originated by contact with the lower animals I have many instances; in one of the more noteworthy, four of a family were affected by three dogs absolutely members of the household, who in their turn had got the disease from affected rats and mice which they had caught. One young lady had got a beautifully typical eruption just below deltoid insertion in right arm from petting a little skye terrier which she fondled like an infant. The animal itself had the disease around the base of the ear.

In another case, about 12 years since, that of a stable helper, who had distinct and typical eruptions and scutula on cheek, on inquiry I found that he had noticed mice running around, with crusts on their heads, in the stable. By my wish he brought me two on the following day he had caught; both of them were severely affected on the head; one of them

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I have now stuffed in my office; the other I sent to Dr. Behrends of Berlin. It is, too, curious how far the disease will go, as in the house of an eminent jurist of my town, where there were two or three young ladies, his sisters, they complained of a pest of a family of what they called crazy mice, who would come out in the rooms at the most inopportune times, run around careless of observation, run up curtains, allow themselves to be caught easily, &c.; on asking that those caught should be sent to me, I was given three or four, in which the disease, or the scratching incident to the disease, had produced great ravages. In them as in all lower animals the head seems to be the first or chief point affected. In these mice the tissues above the calvarium had either suppurated or been scratched away, not only that, but a large portion of the skull itself, and the brain laid bare and probably affected, thus accounting for their insanity. None of the family became affected. I believe the cryptogamic plant can exist in any tissue where it can get oxygen.

Dr. White: I have seen this disease on the glans penis. I do not understand some gentlemen who have said that they consider favus an incurable disease. It seems to me that every case is curable in time. What I want to speak especially about is the frequency of the occurrence of favus among the Russian immigrants. I have had a great many of them at my clinics. There is a difference between the Italian cases that come to me, and the Russian. Every case from Italy, where favus prevails so enormously, is in an active condition; among the cases of recent importations from Italy I have not seen a case of cured favus. I have seen it from childhood up to twenty-five years of age. Whereas I have seen many Russian cases that have been absolutely cured; at any rate, the disease had died out, or been latent for many years. I certainly can claim one positive cure of favus of the scalp; the person has been under my observation for fifteen years. Favus upon the general surface is very readily cured.

Dr. Hartzell referred to a case of favus on the glans penis in connection with the fact that favus is said to grow only where there is hair, and stated that in that case under the miscroscope a "minute hair" had been discovered, and the favus grew around it.

Dr. Allen: In connection with what Dr. White said, I do not think that any of the gentlemen meant to say that favus was strictly incurable. In the last few years I have seen a great many Russian immigrants, and it struck me that both active and cured cases were especially prevalent among the so-called Polish Jews. There have been cases where the hair of nearly the whole scalp with the exception of a fringe around the margin has been destroyed. In some instances I think such baldness closely resembling that of favus follows such affections as the folliculitis decalvans Dr. Fox has spoken about.

Favus of the general surface is rare. I have recently had as patients a woman and two children. The mother stated that she had the disease of the scalp when a young girl, but got married, and her husband does not yet know of its existence. Although she has very little of her own left she arranges it so as to cover up the scalp with the aid of false hair. The disease has cured itself on the vortex, but on the edges it is very active. She brought with her two children, a girl of about four and a boy about five years of age; each had several spots upon the scalp, and the

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boy has a spot of favus upon the lobe of the right ear; that is the only spot, so far as I can discover, upon the body. Though the mother has had it for fifteen years, I think she has no sign of it upon the body and the husband has apparently never caught it.

DR. FORDYCE stated that he had not completed his paper on The Pathological Anatomy of Pearly Epithelioma of the Face, but would read a report of a case of

ADENO-CARCINOMA OF THE SKIN, STARTING IN THE SWEAT GLANDS.

Before reading the report of the case the Doctor stated: The pearly tumors, which I have examined, I have shown to be epithelial in character, many of them starting in the epidermis. There are two ways in which superficial epithelioma of the skin seems to originate. One is this pearly tumor, which may remain in a quiescent state for many years without undergoing ulceration; the other is a soft brownish tubercle, which corresponds to the description of rodent ulcer of the older writers; but at present rodent ulcer includes both pearly tumors and soft tubercles. Pearly tumors seem to originate in the epidermis; the others probably start in some of the glands of the skin. This latter point, however, I have not been able to determine definitely as yet. (A number of photographs were exhibited.)

The following paper was read by J. A. FORDYCE, M.D., of New York, on

ADENO-CARCINOMA OF THE SKIN ORIGINATING IN THE COIL GLANDS.

Cancers of internal organs are generally the result of an abnormal proliferation of the glandular epithelium of the part affected. In the skin on the contrary, the epidermis is the structure which is most frequently first involved. The squamous-celled epithelioma, or the lobulated variety of the French writers, undoubtedly starts in those cells of the epidermis which are destined to form the stratum corneum. Certain varieties of skin cancer which have their point of departure in the epidermis are made up entirely of small epithelial cells which preserve the character of the cells in the lowermost rete layer. These cells extend throughout the cutis and subcutaneous tissue in the form of tubular processes, showing no disposition to form epidermic "globes" or horny tissue. It is difficult to explain why the epithelium in one variety of these malignant growths should always produce, although in an abnormal manner, the form of cell in which it, in a physiological manner

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ends its existence, while another variety preserves its embryonic or original character.

We may suppose that certain epidermic cells have in themselves the power to develop into horny tissue, while others do not possess such power, or are destined for another purpose, such as the formation of the glandular appendages.

In that rare variety of malignant cancerous new growth in which pigment-bearing cells predominate, it is possible that yet another variety of epithelial cell is first involved.

The tubular variety of skin cancer, to which type the so-called rodent ulcer belongs, may originate from the epidermis, from the outer root sheath of the hairs, or possibly from the glands of the skin.

Although many attempts have been made to show that it has a uniform pathology, such efforts have been unsuccessful, as in specimens removed from epitheliomata, which are clinically of the same class, various points of origin, either alone or combined, have been noted.

From whatsoever structure epitheliomata arise, after a certain duration the original arrangement of the cells may be lost in the tendency which they show to arrange themselves in alveolæ which bear a close resemblance to those met with in mammary or other glandular carcinomata. I have, during some recent investigations of cutaneous new growths, excised a number of small pearly tumors which are seen with more or less frequency on the faces of middle-aged individuals. Such small tumors not infrequently exist for many years without ulceration or any change to indicate a malignant tendency. After excision, partial or complete, the wound heals kindly, and no sign has afterward been observed which would point to a recurrence of the growths.

Microscopic examination has shown such tumors to consist of epithelial downgrowths from the epidermis, which in many cases had undergone a partial or complete degeneration of a hyaline nature. With this degeneration of the cell the power of proliferation which it originally possessed is lost and the new growth comes to a standstill.

In other instances, however, the center of the tumor will slowly ulcerate while extension at the margin takes place, giving rise to an open epitheliomatous ulcer whose peripheral cells readily take the microscopic stains and show active cell division. These pearly tumors have many points of resemblance, both in their clinical features and pathological anatomy, to the affection which has been described under the various names of *hydradénomes éruptifs, adénomes sudoripares,* syringo-cystadenome, adenoma of the sweat glands, benign cystic epithelioma, etc.

This curious affection, at first considered to be a benign epithelioma having a sweat gland origin, has been shown to originate in the epidermis

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and to be independent of the coil glands. Its benign nature, too, has been questioned, as in the case lately reported by Dr. White, open epitheliomatous ulcers resulted from a number of the supposed benign tumors. As the predilection of cancer in general for the glandular structures is so strongly marked, the temptation has been strong among many pathologists to attribute to certain cutaneous epitheliomata such an origin without sufficient proof that such was the case. An examination of many of the usual forms of cancer situated at a distance from the mucous membranes will show a structure made up of tubules of small epithelial cells, which suggest in a striking manner overgrown and abnormally proliferated sweat ducts or glands. This is the case in the so-called benign epithelioma and in other varieties of skin cancer.

Although a wide difference of opinion exists among pathologists regarding the *rôle* played by the sweat glands in tumor formation, there are few well authenticated examples of adenomata which can be directly traced to these organs. Virchow (*Die krankhaften Geschwülste*, Bd. iii) had never seen a single example of such a tumor.

Rindfleisch (*Lehrbuch der patholog. Gewebelehre*) found a flat, warty-like elevation of the skin to be on section a tumor originating in the coil glands. Peterson (*Archiv für Dermat. und Syph.*, 1892, p. 919) reported a case of nævus verrucosus unius lateris, which proved on microscopic examination to be an adenoma of the sweat glands. He expressed the view that the tumor originated not from the fully developed gland, but from some disturbance in its embryonal development. In a later article (Beiträge zur Kentniss der Schweissdrüsen-Erkrankungen, *Archiv für Dermat. und Syph.*, 1893, p. 445) he concludes, from a further examination of the same case, that the tumor started from the ducts of the fully developed glands.

Elliot (*Journal of Cutaneous and Genito-Urinary Diseases*, 1893, p. 168) found a similar pathological condition of the coil glands occurring in a nævus unius lateris of the shoulder, which had existed since childhood. Elliot preferred to give the name of adeno-cystoma to the pathological condition which he found, there being no new formation of glandular tissue. He further believed the process to be secondary, and developed in consequence of the irritation to which the nævus had been subjected.

While it is not improbable that adenomata of the sweat glands may remain in a quiescent state for a long time before giving rise to malignant epitheliomata, there is very little proof, either in the clinical course or pathological anatomy of such malignant growths, to show which ones had such a beginning.

Thiersch and Waldeyer have described primary cancer of the sweat

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glands, but the attempts which have been made by Cornil and Ranvier, Thin and others to prove that all tubular epitheliomata of the skin have such an origin have not been successful. Neither the shape, size nor arrangement of the cells are sufficient criteria on which to base the diagnosis of sweat-gland epitheliomata.

Darier (Contributions à l'étude de l'épithéliome des glands sudoripares, *Archives de méd. expérimentale et d'anat. pathol.*, 1889, pp. 115 and 267) has reported a peculiar case occurring in the service of Besnier, in which multiple deep-seated and painful tumors developed with great rapidity on the trunk of a man aged seventy-one. Darier's examination showed that each tumor started with a proliferation of the sweat-gland epithelium, which filled the lumen of the canal, broke through the membrana propria and infiltrated the connective tissue. He gave to his case the name "diffuse multiple epithelioma of the sudoriparous glands," and believes it to be unique in the number, the rapid evolution and the structure of the tumors. The author was able, in medical literature, to find but two analogous cases, one of which was reported by Malherbe, the other by Creighton. In the latter case a dog was the subject of the affection.

Darier (*loc. cit.*) has quoted a number of cases collected from literature in which a sweat-gland origin of the tumors in question was probable. These cases are briefly as follows:

Henocque and Souchon (*Gaz. hebdom.*, 1866, p. 310) observed a tumor on the back of a man aged thirty-four which had existed for eight years. At first its growth was slow, later it became more rapid. The authors concluded from its microscopic structure that it was an adenoma of the sudoriparous glands.

Cristol (*Gaz. hebdom.*, 1886, p. 364) observed a tumor with a similar structure on the back of a woman aged thirty-three. The growth was stationary during many years, but finally ulcerated deeply, and was believed, on microscopic examination, to have had a sweat-gland origin.

Chandelux (*Arch. de physiol.*, t. xiv, 1882) published a report of a painful subcutaneous tumor the size of a pea, wnich had existed six years on the forearm of a woman aged forty-three. The author was able to determine a proliferation of the epithelium lining the sweat glands, which he believed to be the starting point of this growth.

Liénaux (*Ann. de méd. véténinaire*, avril, 1888) examined a tumor the size of an egg which affected the skin of a dog. His examination showed pretty conclusively that the glands under consideration gave rise to the new growth.

Cornil and Ranvier (*Jour. de l'anat. et de la phys.*, 1865, pp. 256 and 466) were able to demonstrate the development of a cancer of the

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leg from the coil glands. The careful study of this case by the authors leaves little doubt regarding the structure first involved, which is admitted by Darier to be incontestably an epithelioma of the sweat glands.

Equally good pathologists differ regarding the part played by the sweat glands in the production of tubular epithelioma. While it is admitted by many that their epithelium may proliferate in many forms of skin cancer, it seems difficult to determine in what class of cases this proliferation is primary. The slow clinical course and non-implication of the lymph glands were supposed, among other symptoms, to indicate a growth which took place at the expense of the sudoriparous glands. When in a growth of this character epithelial processes recalling the shape of the sweat ducts were encountered, the conclusion was reached that these glands were their original point of departure. It is an error to suppose that any universal law can be formulated from either the clinical course or histological structure of such growths; their location on the skin away from the mucous orifices, where there is less irritation and less vascularity and lymphatic supply, as has been observed by Besnier, Hutchinson and others, seems to have more to do with their benign course than a fixed origin or structure. I have examined many cases of such epitheliomata from the face, presenting typical tubular prolongations of epithelium, with no tendency to the formation of horny epithelium, and very frequently could trace their origin to the interpapillary processes of the rete or to the hair follicles, both the sweat and sebaceous glands being unaltered. While it is not denied that either or both of these glands may give rise to the tabular epithelioma, the proof that such is the case is difficult to obtain, as the ulcerative process so soon destroys the tissues which may be first involved.

It is probable that rodent ulcer and tubular epithelioma are pathologically identical. Thin (*On Cancerous Affections of the Skin,* London, 1886) has expressed this view, and has endeavored to associate it with a sweat-gland origin. He does not believe it to be identical with an epithelioma starting from the rete Malpighii, though admitting that the clinical diagnosis is not easy to make. Walker (*British Journal of Dermatology,* September, 1893) is the most recent advocate of the glandular origin of rodent ulcer. His argument is that in its structure it corresponds to glandular cancer, and that when carcinoma of the breast secondarily attacks the skin, it is almost identical with rodent ulcer.

In most of his cases he was able to trace an origin to the sweat glands. The slow course of the ulceration is to be attributed, according to this author, to the normal slow growth of the glandular epithelium, the rete cells having a rapid growth.

The case which forms the subject of this report differed in its clinical

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features from the usual type of cutaneous cancer in which a sweat-gland origin has been claimed. Unfortunately, the duration of the tumor before the stage of ulceration was not noted. It may be said to have some clinical resemblance to the cases reported by Henocque and Souchon and by Cristol. It would have been a matter of some interest to have determined whether it began as a deep or surface affection.

FIG. 1.—(Spencer 1 in. x 60.) Showing the distribution of the epithelial tissue and its adenomatous structure.

Dr. Bronson, in whose service at the City Hospital the case occurred, excised the tumor from the anterior surface of the leg of a man thirty-five years old and kindly gave it to me for examination.

It is interesting to note that the cancerous nature of the new growth was not suspected prior to a microscopic examination made before the operation of excision.

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The growth was composed of distinct lobules, separated by the ingrowth of connective tissue; it was soft to the feel, about half the size of a small egg, and defined from the surrounding tissue without being distinctly encapsulated. It extended about one inch below the skin, and measured an inch and a half in its long diameter.

An open ulcer, somewhat larger than a silver dime, was present over the tumor. Portions of the growth were fixed in Flemming's solution, Foa's solution, and in absolute alcohol. Sections were stained in hæmatoxylon, safranine, Biondi's mixture, and in other ways.

Under a low power (Spencer one inch, Fig. 1) the derma is seen to be occupied by bands, masses, and glandlike arrangements of small epithelial cells which stain imperfectly in places. The cell masses and bands

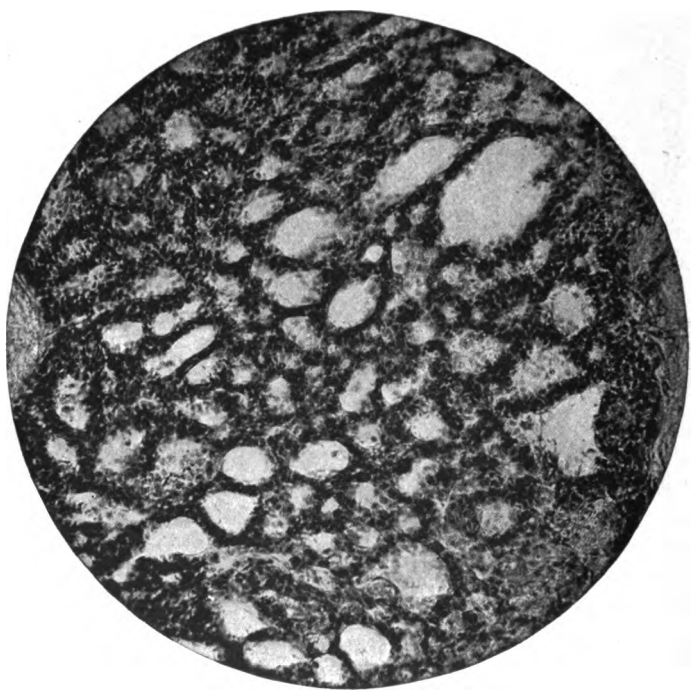

FIG. 2.—(Spencer ½ in. x 150.) More highly magnified field of a portion of Fig. 1.

extend from just below the epidermis, which is unchanged except at the location of the ulceration previously mentioned, to the subcutaneous connective tissue, which is penetrated by them.

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They differ in their arrangement from that met with in other varieties of skin cancer, suggesting to the observer at the first glance an attempted reproduction of glandular tissue, which becomes still more noticeable when higher amplification is employed (Fig. 2).

Here a highly complicated network has been formed by the interlacement of bands of epithelial tissue, inclosing cavities which are partially or completely filled with degenerated cells or with a homogeneous substance allied to colloid matter.

Cystlike cavities are seen in other parts of the microscopic field, which are lined by a single layer of columnar epithelial cells, which present a striking resemblance to overgrown sweat ducts.

In other instances the cell layer is double and quite regular in arrangement; while, again, the overgrown ducts or glands are completely filled with cells or show a localized overgrowth at one or more points. In Fig. 1 an overgrowth of columnar epithelium is shown, which probably represents an early stage of the malignant process.

Fig. 4 (plate) represents a group of enlarged and proliferating sweat ducts cut transversely. The columnar shape and regular arrangement of the peripherally located cells are well shown. These cells are situated upon a basement membrane, and are an almost exact reproduction of those normally met with in the sweat glands, although here very much hypertrophied. The lumen of the tubules is completely filled by the growing and multiplying cells, and in places the basement membrane is penetrated and the surrounding connective tissue infected by them. This photomicrograph is made from a section taken from a portion of the tumor fixed in Flemming's solution. Consequently the cells are much less deeply stained.

In Fig. 6 (plate), where the same amplification is employed, the tubules are larger, of irregular size, and their caliber completely occupied by the newly formed cells, which are also seen in places breaking through the membrana propria and infiltrating the connective tissue stroma. This infection of the surrounding connective tissue may be accepted as positive evidence of the malignant character of the new growth.

Figs. 6 and 7 (plate) represent in a striking manner the adenomalike structure of the new growth, together with the intracanalicular proliferation of the basement cells. The cavities are lined by a double row of cubical cells, which are united in places by connecting bands, dividing the lumen of the tubes into various sized and shaped cavities.

The outlying portions of the tumor have lost their glandlike structure, and assume the appearance of an alveolar carcinoma.

The other anatomical structures of the skin were not implicated in the cancerous process, neither was there any evidence of a tendency to

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cell-nesting or the formation of epidermic "globes." The epithelial processes met with in the small-celled cancer of the skin, starting in the rete Malpighii, resemble at times some of the cell arrangements in the case under consideration. In the epidermic cancer, however, the cells are larger, and do not rest upon a distinct basement membrane, as in this case. Furthermore, the epithelial bands or tubules starting from the rete have no distinct caliber, and do not reproduce so perfectly the glandular structure.

Frequently, when a new growth has reached the size of this one, its point of departure has been destroyed by ulceration or in some way obliterated, so that it is not possible to determine from what structure the epithelial proliferation was primary. The adenomatous character of the new tissue is so apparent here, and differs so radically from those cases starting from the other anatomical divisions of the skin, that an error of this kind could scarcely be made.

Active cell division (karyokinesis) was well shown in the Flemming preparation, stained with safranine, denoting a rapid growth of the new tissue.

The intracellular bodies (so-called parasites of cancer) will not be considered at this time, as I desire, on some future occasion, to discuss their relationship to the cancerous process.

While believing that the manifestations of the malignant disease can best be explained by the parasitic theory, I am not prepared to admit that its cause is found in these bodies.

Prognosis.—Unfortunately, the case here presented has not been seen since the tumor was excised, so that the question of recurrence of the growth cannot be considered.

Such cases are too rare to permit any expression of opinion regarding their malignancy as compared to other cutaneous cancers.*

DISCUSSION.

Dr. Bronson: I cannot add much to the clinical history of this case, though I recollect it very distinctly.

The patient, who was an Italian, presented himself first at the Polyclinic in New York with a tumor growing out of the anterior surface of the leg. It was somewhat larger than a large Spanish olive, projected prominently and was of a dusky red color. The history, so far as I could

* The photomicrographs used in illustrating the article were taken with the lenses made by the Spencer & Smith Optical Co., of Buffalo, N. Y., especially corrected for photography with yellow or yellowish-green light as suggested by Dr. H. G. Piffard, of this city. They are reproduced by the half-tone process, and necessarily lose some of the details seen in the originals.

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learn, was that it had been in existence for a long period; my recollection is, a year or two. No subjective symptoms attended it. The tumor had the appearance of a papillomatous growth. There was no hardening of the border, and the idea did not occur to me that the disease was carcinomatous in nature; I was surprised at the result of the examination.

The evidence of the disease commencing in the several glands is interesting and, perhaps, would account for the peculiar clinical characters.

DR. HARTZELL: I have been much interested in this paper and, I think, we shall all gain much in clearness in our knowledge of these growths if we realize that they are all in essence the same, all epithelial. I think the essential character of the epithelial cell is not changed. It continues to proliferate, continues to be of the same character as the parent cell; so that, in a growth of this kind, the cells must have had their birth in the cylindrical cells. I believe firmly in the parasitic origin of epithelioma. Just what the parasite may be I do not think we are in a position to say; but if we admit that a parasite is at work we can understand that where the parasite is abundant the growth will proceed more rapidly than where there are few. This may explain the differences which occur. If parasites are few they, acting as irritants, will excite but moderate proliferation; if larger in number we may expect a corresponding multiplication of the cells.

DR. FORDYCE: In regard to the question which Dr. Bronson raised: Sweat gland epitheliomata are so rare that it is impossible to speak regarding that point; but there are clinical varieties of epithelioma of the face which are quite soft. I remember distinctly examining a case which one of our members diagnosed as sarcoma of the face; it was a soft, brownish-red nodule; on examination with microscope it proved to be epithelioma of the glandular type.

HENRY W. STELWAGON, M. D., of Philadelphia, read the next paper, entitled

THE QUESTION OF CONTAGIOUSNESS OF MOLLOSCUM CONTAGIOSUM.

From the time of Bateman till the present the question of the communicability of molluscum contagiosum has been the subject of periodical discussions. For several years the literature would remain comparatively free, and then would appear one or several papers bearing upon the contagiousness or non-contagiousness of the disease, with case presentations showing one or the other side of the problem. It is noted, however, as each succeeding wave of discussion subsided, that the advocates or believers in its contagiousness had gained ground and increased in numbers. The last aggressive advance during the past eight or ten years has been one fruitful in results, and to-day the communicability of mol-

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luscum contagiosum must, I think, be accepted as an established fact. That is the conclusion to which a careful examination of the affirmative evidence in our possession, a greater part of which I shall briefly review, must inevitably lead. For much of the material antedating 1872 I am indebted to that admiral presentation of the subject made by Duckworth in volumes iv. and viii. of *St. Bartholomew's Hospital Reports.*

For convenience's sake, the evidence to be cited may be arrayed under four heads: 1. Clinical examples of communicability from one to several members of a household and from family to family, etc. 2. Clinical examples of its spread through asylums, schools, hospitals, etc. 3. Examples of accidental inoculation. 4. Successful experimental inoculation.

Negative evidence, such as the occurrence of the disease in isolated cases and the failure in most instances of the attempts to produce the disease by inoculation, which has often been advanced as militating against the contagious view, has, in my judgment, no weight whatsoever as against the positive facts pointing unmistakably to the contrary. That contagion is difficult to trace in such instances does not admit of question; but in a disease in which the contagious principle, the means and method of contagion, are as yet not positively known, this is not to be wondered at. Moreover, even in such actively contagious diseases as ring-worm the source of the affection cannot always be ascertained; and in some instances, too, even of this disease, single cases in a family will exist without the others becoming affected. If, in such an actively contagious disease this may occur, it certainly cannot be surprising for the same to happen, even more frequently, with a disease less actively contagious. As to the inoculability of the disease, one success will weigh against hundreds of failures; other diseases admittedly contagious are often difficult to inoculate experimentally, and in a given number of attempts the successes will be found to be relatively small as compared to the failures. With these preliminary remarks, the subject may be considered under the several headings raferred to.

1. CLINICAL EXAMPLES OF COMMUNICABILITY FROM ONE TO SEVERAL MEMBERS OF A HOUSEHOLD AND FROM FAMILY TO FAMILY, ETC.

Bateman's Cases (*Delineations of Cutaneous Diseases,* London, 1817).--(*a*) A young woman whose face and neck were disfigured by numerous mollusca had received the eruption from a child which she nursed, on whose cheek a large lesion of the same disease existed and who had doubtless been infected by a former nurse on whose face the same eruption had been observed and who had also communicated it to

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two other children in the family. (*b*) Another instance where a child was infected by an older child who was in the habit of nursing and fondling it and on whose face the disease had previously appeared.

Thompson's Cases (quoted by Paterson, *Edinburgh Medical and Surgical Journal*, 1841, vol lvi., p. 280).—(*a*) In one family the eldest boy was affected first and was supposed to have caught it from a play-fellow; a younger sister and infant brother subsequently contracted it. (*b*). In another instance the child of a farmer presented the disease, presumably caught from a child of one of the farm servants; the nurse of the child became affected on the neck in the region where the infant usually laid its head.

Henderson's Cases (*Edinburgh Medical and Surgical Journal*, 1841, vol. lvi, p. 213).—Four cases—three in one family, one after the other, presented the disease; the fourth case was the child of a neighbor in the habit of playing with the others.

Paterson's Cases (*Edinburgh Medical and Surgical Journal*, 1841, vol. lvi, p. 279).—(*a.*) A child of a Newhaven fishwife presented lesions about the mouth and nose; the mother who suckled it became the subject of the disease, which was confined to the areolar region of the mamillary gland. (*b.*) In another instance a child was affected on the neck and shoulders, and the disease was believed to have been caught from a girl who had previously carried it about and who was the subject of similar cutaneous tumors. (*c.*) In another instance a man and his wife had the eruption about the genitalia.

Cotton's Cases (*Edinburgh Medical and Surgical Journal*, 1848, vol. lxix, p. 82).—A girl aged fourteen had the disease on the hand and arms; next an infant sister, six months old, suffered on the arms, chest and thighs; and three months subsequently another sister presented lesions on the head.

Caillault's Cases (*Traité pratique des maladies de la peau chez les enfants*, 1859, p. 54).—A youth presented with the disease upon the face of more than six months' duration; his sister, aged fourteen, had, for a somewhat shorter period, numerous tumors on the neck and face; they both used the same towel.

Hardy's Cases (*Leçons sur les maladies de la peaux*, 1863, p. 98).—(*a.*) A nurse had four or five mollusca on her breast; the child suckled by her had similar tumors on the parts of the face which came in contact with her diseased breast. (*b.*) In another instance a nurse having charge of a patient who had molluscum tumors, developed on the backs of the hands, and subsequently on the body, similar growths; her companion, a woman who lived in the same room with her and whose hair

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she often combed, subsequently caught the disease, presenting lesions on neck and hands.

Erasmus Wilson's Cases (*Diseases of the Skin*, fifth edition, 1863, p. 653).—A girl, aged four, presented fifteen to twenty tumors; next an infant sister and another sister, aged six, contracted the disease; the mother had also several lesions on the neck and the remains of some on the face.

Nelligan's Cases (*Practical Treatise on Diseases of the Skin*, 1866, p. 305, Dublin).—Two instances in which the disease was communicated by children to adults, in each instance members of the same family.

Duckworth's Cases (*St. Bartholomew's Hospital Reports*, vol. iv, 1868, and vol. viii, 1872).—There were several series: (*a.*) The disease was first noticed in an infant, from whom it spread to two or three brothers and sisters of varying ages up to nine years. It then spread to another child, a girl, aged nine, living in the same house; then to her infant sister; and later to a brother, aged six. The latter infant was often left with a neighboring family, and played with a three-year-old child, who some time afterward developed several tumors; another child in the same house (lodging house) also presented with numerous mollusca on the chin and neck. (*b.*) A girl, aged eight, presented several mollusca about the upper face which had existed seven months; a younger sister had two lesions on the face which came some months after the disease developed in the first case, and recently a tumor appeared on the baby, aged five months, who was often nursed and kissed by these children. (*c.*) A girl, aged nine, had tumors about her mouth a month before her next younger sister had them on the eyelids; four or five months subsequently several mollusca appeared on the baby's face. (*d.*) A boy, aged two, with numerous tumors on the face and neck, which had existed for nine months; a sister, aged sixteen, had a similar lesion on the eyelid twelve months before, and her next brother one on his forehead a month after hers was observed. (*e.*) A woman with mollusca upon the face and mammæ; the infant which she carried and suckled had likewise mollusca upon the face and neck; her eldest boy, aged three, had these growths for many months before the others became affected; finally, the grandmother who lived with them presented the disease. (*f.*) A girl, aged fifteen, with several mollusca on the face; she had had crops of the tumors for two years, and her sister believed that she caught them from an infant nephew (son of this sister) who lived in the house. A younger sister, aged thirteen, had lately become affected; she sleeps with the first case. (*g.*) A girl, aged five, with a number of mollusca on the neck, face and front of the thorax; she had had them for twelve months; the baby, aged three months, had a tumor near the right outer

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canthus. These two children slept together. (*h.*) A girl, aged seven, presented the disease, a younger sister, aged five years and a half, contracted the disease, showing several lesions on the face and finger; these two children slept togcther. A still younger sister, aged twenty months, also had mollusca around the eyes and on the finger. (*i.*) A boy, aged three and a half, with lesions on the face and one on the thigh; a brother, aged seven, also had two mollusca on his face. (*j.*) A patient, aged two, presented a number of tumors on the face and arms; the baby, aged eleven months, had one tumor.

Liveing's Cases (*British Medical Journal,* January 6, 1872, p. 11).--Two members of a family first came under his notiee; during the period of observation and treatment, three of the other children of the same family, one sister and two brothers, all under twelve years, became affected.

Eames's Cases (*British Medical Journal,* December 21, 1872, p. 680). --A boy, aged nearly three years, was first affected; then the sister, aged fourteen; next the mother, and lastly another sister, aged eight. The children all slept in the same bed. The mother believed that the first child affected--thirteen months before—caught it from a woman who then lived with them, and had such spots on the face and hands.

Ferrier's Cases (*British Medical Journal,* December 21, 1872, p. 682).—A baby, aged nine months, with numerous growths on the lips, cheeks and neck of five months' duration; the mother had two lesions on the left breast, which, as far as could be learned, came after those on the child's face had disappeared. The disease was attributed to contagion from a little girl, the daughter of a neighbor, who had "warts" on the face and different parts of the body, and who used to frequent the house and kiss the baby.

Squire's Cases (*British Medical Journal,* January 13, 1872, p. 45).—Three cases occurring in the children of a family, and affecting all of them within a period of a few weeks.

Tilbury Fox's Cases (discussion, *British Medical Journal,* May 28, 1872, p. 538).—(*a*) One instance in which the mother's breast became affected with the disease while suckling her child who had some lesions on the forehead. (*b*) In another instance seven cases—seven children—in one family had been brought to him suffering from the affection.

Abelin's Cases (quoted by Retzius, *Deutsche Klinik,* 1872, p. 39).—(*a*) A girl, aged three, with lesions upon the face; another girl, about the same age, and with whom she played, soon developed the disease. (*b*) Another group of cases consisted of three children and their father.

Kaposi's Cases (*Vierteljahresschrift für Dermatologie und Syphilis,* 1877, p. 352)—Two of his own children; in the first child the tumors

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appeared after an attack of eczema, numerous lesions presenting; a few months after the growths had been removed, his four-year-old daughter developed the disease. His youngest child escaped.

G. H. Fox's Cases (*Chicago Medical Journal*, vol. xxxvi., 1878, p. 466).—(*a*) A girl, aged eight, with two lesions on the chin, who thinks she caught it from a little girl in the same house having five lesions, likewise on the chin. (*b*) Girl, aged four and a half, with several lesions near the eye, on the chin, cheek and neck. Several months before she had one near the right oral commissure; a sister, aged seven, had one at the same time in a similar location. (*c*) A boy, aged six months, with several lesions near the eye and on the scalp of two months' standing; a brother, who had died a year before, had the same disease; a little girl living in the same house has one lesion on the forehead. (*d*) A girl, aged six, with several tumors on the chin and the eyelid. Mother stated that she used to play with another girl who had "warts" on the hands; recently an older sister, aged fourteen, had four or five mollusca on the left cheek. (*e*) A girl, aged twelve, with several lesions on the chin and nose; a brother, aged seven, has one on the forehead; a child of a married sister had several around the eyes. This last child died seven or eight months before the others were affected. (*f*) A boy, aged seven, with one tumor on the nose of two months' standing; a little brother had some around the eyes about a year before; now a two-year-old baby has some "specks" under the eye. (*g*) A girl, aged one and a half, with numerous lesions on the face, chin and neck; she lives next door to one of the other cases.

Smith's Cases (*Dublin Journal of Medical Science*, vol. lxvi., 1878, p. 371).—(*a*) A girl, aged two years and nine months, with lesions on the chin and one near the eye; a younger sister, aged sixteen months, soon afterward had two small tumors on the face and three on the chin; the father also contracted it, having several growths over the left eye. The disease could be traced to a boy of seventeen living in the same house. A little girl residing at that time in the same house had also a number of similar tumors. (*b*) A boy, aged two, with a dozen tumors on the neck; nine months later, a younger sister presented with similar growths.

Barnes's Cases (*British Medical Journal*, March 9, 1878, p. 335).—Had under his care an infant suckling aged eight months, the mother, the sister (aged seven), all of whom were affected with the disease. It first appeared in the girl, on her hands and face; she fondled and often cared for the baby, who caught it, by whom it was conveyed to the mother's breast; the father next caught it, having two tubercles under the left eye; and finally the brother contracted it, presumably from the baby.

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Mackenzie's Cases (*British Medical Journal*, vol. i., 1879, p. 855).—(*a*) In the first series were a mother, four of her children, and an aunt. The disease began in her fourth child, by whom it was communicated to the baby's face; this latter conveyed it to the mother's breasts; the sixth child was next affected, and about the same time the fifth child also. The aunt, who frequently nursed and fondled the children, caught it, having two lesions on her face. (*b*) Another group consisted of an infant, eighteen months old, with numerous lesions upon her face, and her mother with two mollusca on her breast. (*c*) In another instance two children living next door to each other presented the characteristic tubercles.

Norrant Baker's Cases (discussion, *British Medical Journal*, 1879, vol. i. p. 856).—Two or three instances in which the mother had molluscum contagiosum on the breast, and the child the same disease on the face.

Malcolm Morris's Cases (discussion, *British Medical Journal*, vol. i, 1879, p. 856).—A child with the disease, from whom an infant caught it, and by the latter communicated to its mother.

G. Brown's Cases (discussion, *British Medical Journal*, vol. i, 1879, p. 856).—Several instances, and in none was the infant affected without the mother's breast being also similarly diseased.

Allen's Cases (*Journal of Cutaneous and Genito-Urinary Diseases*, 1886, p. 239).—There came under his care a married woman, aged twenty-five, with a group of molluscum tumors on the right side of the neck, and a few scattered ones on the opposite side. They had first appeared seven months before, at a spot where her child (who had also had the disease) rested his face when she carried him. The child was examined and found to have still remaining upon his face a solitary molluscum. The mother stated that her small brother, who lived in the family, was similarly affected.

Havenith' Cases (*Journal de Médicine de Bruxelles*, mars 5, 1887).—A woman with two lesions on the breast, and her infant, which she suckled, with a number of growths upon the face.

Tommasoli's Cases (*Monatshefte für praktische Dermatologie*, No. 4, 1890, p. 150).—(*a*) A four-year-old child passed some days with a family whose child, whom she was visiting, had some mollusca upon the face. After not less than twenty days she also showed mollusca upon the face. Some time after she had returned to her family from this visit her older brother contracted the disease. Before this visit neither had shown the slightest trace of the disease. (*b*) An infant had some tumors on its face; her mother who was obliged to carry the child

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a great deal, also showed a lesion on one arm, and in the very place upon which the head of the child rested.

Mittendorf's Cases (*Transactions of the American Opthamological Society,* vol. 4, 1885–1887, p. 263).—Some of the children afflicted with molluscum contagiosum were taken from an institution where the disease was more or less epidemic (to be referred to later) and given out to a farmer, who boarded them. In a short time the affection had spread to several of the children boarding at this farmer's place, to the child of the farmer, and likewise to his wife.

Stelwagon's—my own—Cases (*Journal of Cutaneous and Genito-Urinary Diseases,* 1889, p. 61).—The group consisted, according to the report then published, of three cases, all occurring in the same family. The affection first appeared in the daughter, a girl of twelve; shortly afterward the father of the girl developed a lesion on the neck, and about the same time the sister presented a characteristic tumor on the thigh. A few months subsequent to the published report, and about three or four months after the last of the three cases had been under notice, the mother presented herself with a typical lesion upon the eyelid.

Newman's Cases (*Archiv für Dermatologie und Syphilis,* 1893, p. 980).—A group of cases consisting of a mother and twins—infants at the breast. The disease first began in one of the infants, who communicated it to the mother's breast, and by the latter was subsequently conveyed to the other child.

2. CLINICAL EXAMPLES OF ITS SPREAD IN ASYLUMS, SCHOOLS, HOSPITALS, ETC.

Caillault's Cases (*Traité pratique des maladies de la peau chez les enfants,* Paris, 1859, p. 94).—A girl, aged eight, was admitted in the hospital ward with numerous tumors on face, eyelids and shoulders. Out of thirty children in the same ward fourteen became finally affected. He watched the cases, and was able to affirm that no new examples from without entered the ward.

Ebert's Cases (*Jahrbuch für Kinderheilkunde,* vol. iii, 1870, p. 152).—A girl, aged fourteen, was admitted in the hospital with a number of tumors on the face. The disease spread to three children who occupied the nearest beds, and who came more particularly in contact with the patient and with each other.

Liveing's Cases (*Lancet,* vol. ii, 1878, p. 495).—The cases, nine in all, were observed in a school. Within a few months after the first case was noticed eight others had become affected.

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Mittendorf's Cases (*loc. cit.*).—(*a*) One epidemic was observed at a "home for children." The disease was introduced by a little girl who had a few lesions on the eyelids, which were noticed by the attendant at the time of her admission. No attention was paid to the matter, but within a few weeks several of the other girls developed similar lesions. At the time of the professional visit to the institution, which was about three months after the admission of the original patient, it was found that twenty-seven children were more or less disfigured by molluscum tumors. (*b*) Another epidemic, observed by this writer, occurred at a "nursery and child's hospital." Within two years after the first case had been observed forty-one of the children had become affected.

Allen's Cases (*Journal of Cutaneous and Genito-Urinary Diseases*, 1886, p. 239).—(*a*) A case of the disease was admitted into a children's asylum with a few lesions upon the face. In the course of a few months it was noted that many others of the children were affected. In all there were forty-two cases at the time of the professional visit. Under treatment these cases recovered; but on a subsequent visit, three months later, it was observed that in twelve of the cases the disease had recurred, and that there had developed five new cases—making a total, recurrences excepted, of forty-seven cases. (*b*) This same observer had under his care another epidemic (*New York Medical Record*, August 3, 1889, p. 116) in another children's asylum. A little girl was brought in with some characteristic tumors on her face; a boy with whom she caressed and played soon developed the growths, and from these two cases of the disease five others developed.

Stelwagon's—my own—Cases (*Journal of Cutaneous and Genito-Urinary Diseases*, 1889, p. 60).—(*a*) The first series, numbering four cases, came under notice at a children's hospital. The disease was first seen in one of the crippled inmates, and soon afterward three others among his fellows in the same ward were observed. (*b*) The second series occurred in a "home for children." There were thirteen cases in all among about one hundred children. It had been introduced by one of the inmates and subsequently spread to the others. (*c*) The third series occurred also in the last-named institution about a year later, the former cases all having been cured. It consisted of twelve cases, and in this instance was apparently traceable to a recent admission of two cases.

Tommasoli's Cases (*loc. cit.*).—In one asylum in the city of Sienna were found fifty-six children with molluscum contagiosum; in three other asylums in the same city not a single case was discovered.

Jackson's Cases (*Journal of Cutaneous and Genito-Urinary Diseases*, 1891, p. 338).—A small epidemic was observed in a children's

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pavilion of a hospital. One week after the first case came under observation two more cases had developed; a week later another new case, and the following week two additional cases, making six in all. While the patients did not sleep in the same pavilion, they all played together.

Graham's Cases (*Journal of Cutaneous and Genito-Urinary Diseases*, 1892, p. 89).—In an "infant's home" a little girl was brought in who was noticed to have small mollusca on the face and neck. During the first three months the child was in the infirmary: she was then transferred with several others to one of the nurseries of the institution which accommodates about twenty children. Two months later four of the inmates of this nursery wore found to be affected; of these one was brought over with the original patient from the infirmary. These growths were removed by the ordinary plans of treatment; but from that time to the present--in all a period of three or four years—the disease had existed in that nursery. At present there are three cases. In all, the observation covered fifteen cases. The disease has never extended beyond this one nursery; there is very little communication between the various nurseries.

3. Examples of Accidental Inoculation.

Wigglesworth records (discussion, *Transactions of the American Dermatological Association*, 1891, p. 63) himself as an example of accidental inoculation, several lesions appearing on the hand and forearm a few weeks after he had squeezed out molluscum tumors in a case coming under his care.

Allen relates (*Transactions of the American Dermatological Associations*, 1891, p. 62) (*a*) the case of a man who came to him with a little molluscum tumor on the thumb, with the statement that a few weeks before had squeezed out with the thumbs similar small tumors around the eyelids of his own child.

(*b*) This same observer also records (*New York Medical Record*, 1889, p. 117, August 3d) the following: A New York physician came to him, knowing him to be interested in the subject, with a molluscum tumor on the fourth finger; this gentleman was an ophthalmic surgeon to one of the large asylums where molluscum contagiosum had been epidemic and had of late removed many such growths from the faces of his little patients.

(*c*) Allen himself has recently been, as he has kindly communicated to me by letter under date of April 12, 1894, the recipient of an accidental inoculation, as follows: "My experimental attempts I must look upon as failures, though I have since been the recipient of an accidental inoculation on the left forefinger just over the knuckle, resulting in two

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distinct growths. I had been treating several cases during the few months preceding, the last case two or three weeks before. After they were big enough to attract my attention (mere specks) it took them six weeks to attain a size from which a clinical diagnosis could be made."

Brocq, in a letter under date of May 20, 1894, details a accidental inoculation of himself as follows: "I inoculated myself involuntarily with molluscum, with my nails, after having pressed out, with the nails of the two thumbs, the contents of a lesion of molluscum in a patient. Soon afterward I inadvertently scratched my face. About a month and a half later several lesions of molluscum developed in this region."

4. Succesful Experimental Inoculation.

Retzius (*Deutsche Klinik*, 1872, p. 39), reports a successful inoculation upon himself: A small quantity of the molluscum material was rubbed into a limited area of the upper breast, over which he fixed by means of ahesive strips, a watch glass; this protecting cover was worn for a few weeks. Two months later nothing had developed, but between four and five months after the inoculation there gradually developed a pinhead-sized lesion. He watched it for three months, during which time it grew a trifle larger; it then gradually disappeared. It had all the clinical appearances of a small typical molluscum contagiousum tumor, and the various microscopic examinations of the pressed-out contents were corroborative.

Paterson states, in a letter to Dr. Duckworth (quoted in Duckworth's paper, *St. Bartholomew's Hospital Reports*, vol. viii, p. 64, 1872), that his later inoculations had suceeeded, the conditions being that the contents of the tumors were inserted into the mouths of the follicles in a tender part of the skin, such as the angles of the mouth, axillæ, mammæ, etc.

Vidal records (*Le Progrès médical*, 1878, p. 478) the successful inoculation of the disease made by Dr. Pautry, one of his assistants, a positive result showing itself three months after the date of inoculation.*

* The details not being given in this report and not being able to find any other record, I wrote to Dr. Brocq as to his knowledge of the particulars, who kindly replied as follows: "A flattened pointed instrument was inserted into a lesion of molluscum and moved to and fro a few times. With this the upper third of the arm in the subject selected was punctured in four places quite near each other to the depth of about a half millimetre. A small mark from these punctures remained, and three months later the lesions of molluscum were noticed. In the notes it is not stated whether the subject had had molluscum previously." It is doubtless this successful case (an infant's or child's arm), that is shown in model No. 515 in the Baretta Museum.

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Stanziale's experimental inoculation (*Giornale Internazionale delle Scienze Mediche,* 1890, p. 321) had one successful result. The substance of the molluscum was rubbed into sound skin of the inside of the forearm and arm of a woman aged twenty-six; three months later a hempseed-sized lesion had developed, which in the course of forty days more had grown to the size of a small pea.

Pick, of Prague, also succeeded (*Monatshefte für praktische Dermatologie,* vol. xv, p. 133, 1892; and *British Journal of Dermatology,* 1892, p. 233) in producing the disease by inoculation. The inoculations were made in a boy aged eleven and a girl aged nine; the region selected was the skin over Scarpa's triangle. After thoroughly asepticizing the part, twelve inoculations were made just within the epidermis, and the exact location marked by ringing with nitrate of silver. It was not until the tenth week that the lesions began to develop. The contents of the little tumors which developed showed under the microscope the characteristic molluscum corpuscles. At the end of the twelfth week the growths were excised, and were found to correspond microscopically to molluscum growths. Nine of the twelve inoculations succeeded.

Haab succeeded (*Correspondenzblatt für Aerzete,* No. 8, 1886) in inoculating himself. He rubbed the contents from a freshly extirpated lesion into the skin of his forearm. Nothing was noticed till more than six months had passed, when a choracteristic tumor of about the size of a hempseed had developed, corresponding clinically and microscopically to a typical molluscum growth.

Nobel records (*Archiv für Dermatologie und Syphilis,* 1893, p. 929) a favorable result from experimental inoculation. It was done, however, on a subject who had the disease on the genitalia. The skin of the arm in the selected spot was scraped of its uppermost layer, the inoculating material from one of the lesions of the penis rubbed in, and the part bound with silk. After four weeks punctate elevations were noticeable, but it was not until nine weeks after the date of inoculation that the characteristic tumors were to be seen.*

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* Crocker mentions (*Diseases of the Skin,* 2d edition, p. 480) among others a successful inoculation by "Horab." In reply to a letter regarding the record of this case, which I had not been able to discover, Dr. Crocker kindly replied that after a careful search he could as yet only find it referred to in the *Journal des maladies cutanées et Syphiliques* of 1891, page 134, in an abstract of a thesis (Paris, 1889) by M. Moreau. In this abstract, which I have since consulted, the name only is given, no details being stated, and a fairly thorough examination has failed to disclose any other record of the case. It is possible, as Dr. Crocker also suggests, that it may in reality be "Haab's" case in a misspelled guise; an examination of Moreau's paper in the original would doubtless clear up the matter.

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This constitutes the greater part of the affirmative evidence which has been accumulating for some years, and which, as stated in the preliminary part of this paper, can lead to but one conclusion—the contagiousness of the disease. The clinical evidence alone is indeed overwhelming, and, unless we are to place an interpretation upon the clinical facts of this disease different from that which we are accustomed to place upon those of other contagious skin diseases, is in itself convincing. Supporting and confirming the clinical side of the question, however, is the success in the cited examples of experimental inoculation and also the several instances of accidental inoculation referred to. In a careful or even superficial survey of the subject one point presents itself at times boldly—that is, the variable and often long periods of incubation. This is, for obvious reasons, more conspicuously shown in the cases of experimental inoculation, but the same is recognized in a study of the ordinary clinical cases. It is probable that the difficulty in tracing the source of contagion in some instances is due to this very fact; and this also complicates the investigation of the disease by experimental inoculation. As yet from the material at hand the proper method of artificial inoculation cannot be definitely stated; there was, in fact, little or no uniformity in the methods employed in the successful instances recorded.* Indeed, until we know the character of the parasite, its mode of entrance, its life habits, etc., very little progress in this direction is to be expected. Of the various parasites alleged to be the cause of the disease, the psorosperm is or was the most promising, but the elaborate investigations by Török and Tommasoli, and also those by Piffard others, would seem to throw great doubt upon this point. That the diease is parasitic and that the parasite will be sooner or later recognized, however, no one can question.

DISCUSSION.

DR. FORDYCE: I think there is little doubt of the contagiousness of molluscum cortagiosum. I have seen at least a half dozen instances in which the contagiousness of the affection could scarcely be questioned.

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* In the numerous unsuccessful attempts at experimental inoculation which have been made from time to time by various investigators, different methods were often purposely tried by the same experimenter. In my own attempts the material of both the contents and body of the molluscum tumors, and from recent and advanced lesions, were variously employed; in some instances rubbed in, in others gently rubbed in after removing the outermost layers of the epiderm, in others were picked in as in tattooing, and in one or two instances introduced just beneath the epidermic covering. All were unsuccessful: in a few experiments minute papules were to be seen for a few days after the inoculation, but these were apparently of a purely inflammatory nature, presenting nothing chracteristic, and disappearing rapidly.

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I am a firm believer in its parasitic origin and here show a number of photographs made from preparations of fresh material squeezed from the lesions, in which a number of cells show the presence of two or more bodies which can be differentiated from the cell nucleus. In one photograph the foreign body is partly within and partly without the cell.

DR. HARTZELL: I am fully convinced of the contagiousness of molluscum cortagiosum. I have so frequently seen cases where several members of a family have had it, that I cannot doubt that it was conveyed from one to the other.

I have recently seen a case in which a small child, then a sister, and finally the mother, were affected. Indeed, cases of this kind are so common that I do not think we can longer doubt the contagiousness of the disease.

As to its etiology, I must array myself with those who believe in the etiological relationship of psorosperms to this disease. I think, after we have examined sections in which the epithelial cells have broken down, we may convince ourselves that these round bodies are quite distinct from the epithelial cells, not animal cells, but those which have reached the epidermis from the outside.

DR. SHERWELL had for many years been of the opinion that molluscum cortagiosum was in fact contagious. Later, in reply to a remark by Dr. Hyde. on the relative paucity of statistics in the cases collected and enumerated by the association, he referred to the fact that the cases seen in large public institutions, when the specialist had only been called in as consultant had not been reported to the association and gone on file. This had been his experience and he believed that of others.

DR. ZEISLER: I will not try to contest the theory of the contagiousness of this disease. The element of disposition, I have no doubt, has much to do with it. I have since long been looking in vain for a case in which I could trace the contagion, and it is my misfortune that I have not succeeded. I recall distinctly a case of a married lady, who had hundreds of these little tumors over her body, and she did not transmit the trouble to her husband, whom I also examined. In another case there were two sisters who occupied the same bed; one was covered with the mollusca and the other was free.

DR. WHITE: I do not think it is necessary to assume the position that has been taken in regard to these modified cells. I am willing to accept the proposition and await demonstration in the future that a cell which belongs to a body may infect contiguous cells. We have just as much positive evidence of the possible truth of that belief as of the parasitic theory. Until it can be positively demonstrated that these bodies are foreign and independent animal organisms, I do not think it is necessary for us to assume that they are. There has been no positive proof that they are parasitic. Indeed, those who were first to claim this nature for these bodies in France have recently greatly modified their opinions.

Menchikoff has recently expressed the opinion that the statements which have been made by his colleagues in France with regard to the parasitic nature of these bodies is to be received with grave doubt and hesitation.

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I think we must await further proof before accepting the parasitic nature of these bodies.

DR. DUHRING: I think, from the vast amount of material that has been reported concerning the so-called contagiousness of the disease that we must accept this point. Looking back upon the cases I have had, however, I cannot recall any that seemed convincing on the point of contagion. While I have seen instances of two cases in one family, the proof of communication seemed to be wanting, and there were cases where the disease has not been communicated to other members of the family who were in close contact with the subject of the disease. I remember a peculiar epidemic of this affection in an institution with which I had some connection many years ago, occurring in children between the ages of two and eight years. It appeared in an extremely mild form in a number of cases in a short period; there were probably twelve or fifteen cases, and in not one of them did it attain any severity, the lesions being in every case small and ill-defined. It was not communicated to other children with whom they came in contact, nor any of the attendants of the institution. It was of a very mild character, and without any treatment whatever died out in a few months I think, however, that there is no reason to doubt the clinical observations, although the interpretaton put upon them by some observers may, perhaps, be open to question. I think it well not to arrive at positive conclusions nor make too positive statements.

DR. HYDE: While the clinical evidence is so strong of the contagiousness of molluscum cortagiosum, it seems that the intentional production of the disease had not yet been accomplished, and that seems the crucial point on which the question rests. I desire to call attention to the fact that some of us see but few of these cases. Almost all the reports that we have of molluscum epithelioma come from gentlemen who are actively interested in institutions where children's diseases are treated. I have never seen a case which was at all convincing to me that the disease had been communicated from one person to another, but to that statement I should add that I see very few cases.

DR. GRINDON: It seems to me that the question of the contagiousness of molluscum cortagiosum, and the question as to what may be the efficient cause of that contagiousness, possess special interest apart from anything bearing on the disease itself in view of the strong analogies revealed by the microscope. It is quite possible that the establishment of what may be the efficient cause of the contagiousness of the disease may give us some valuable hints of the true nature of the graver trouble.

DR. ALLEN: It is desirable to have this matter settled, but it can only be settled by clinical experience, not by vote. Although further investigations will have to be made before it is definitely determined, my own opinion is that the disease is a contagious one; under certain circumstances eminently contagious. I cannot agree with Dr. White that because an animal parasite has never been proven to exist we cannot assume that the body which we find has this nature.

If we find that the disease is contagious, I think we have a right to assume that there is a contagious element present in the nature of an organism—a micro-organism or animal parasite of some kind. The cases

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spoken of by Dr. Duhring in which the lesions never developed to any great extent, and which were easily cured, without others contracting the disease, I think is in the nature of negative evidence. In my experience, I have found that the early lesions do not show any great tendency to reproduce themselves in others. The disease is most contagious at a later stage. I base my opinion on the observation that when there is present on the face of a child, for example, beneath the eye. or upon the eyelid, a large tumor, especially if suppuration has occurred, others quickly spring up upon the cheeks, neck or other parts of the body, and it is in this stage that the disease is most often transmitted to the breast or neck of the mother. In the case of my own inoculation spoken of by Dr. Stelwagon, he neglected to mention that the clinical diagnosis was confirmed by a colleague in whose presence I removed the growth, and that I made a microscopical examination which proved it correct. It seems to me that such a case points strongly in favor of the contagiousness of the disease.

DR. WHITE: Perhaps I did not make myself quite clear.

While believing in the contagiousness of the disease, I say that it is possible to account for this contagious element without assuming those particular bodies to be the cause. It may be proved hereafter that cells belonging to our bodies have power of communicating a condition to other cells, without the necessity of the introducing of a foreign element. We may also find that there is another germ that has never yet been seen. There may be another germ there.

DR. STELWAGON: I do not know that I have anything to add to what I have said except to express my absolute conviction that the disease is contagious. Without such conclusion I cannot explain to my own satisfaction the prevalence of a disease in an institution taking its origin from a case introduced from without, or how it can be communicated from a patient to a physician's hand and from an infant's face to its mother's breast, or how it is possible to explain the successful cases of experimental inoculation. The material of contagion we as yet know practically nothing about, and there is great difference of opinion among different observers. It seems to me that an argument against contagiousness, based upon the observation that the disease rarely affects all the members of a family or all the inmates of an institution, is illogical. The same argument could be made with respect to ring-worm or favus, and even against such actively contagious diseases as scarlet fever, measles, small-pox, etc. Of course, there must be favoring conditions, of which as yet we know but little.

The failure of almost all experimental inoculations cannot stand as an argument against the few admittedly successful experimental examples recorded; and it is well known that even in contagious diseases like ring-worm and favus, attempts at experimental inoculation are often without result.

DR. FORDYCE: I would only like to say that the belief in the parasitic nature of the bodies found in so-called psoro spermosis of Darier is not growing, while the belief in the parasitic nature of bodies found in cancer is increasing; and, so far as I know, Neisser has not receded from his proposition that the bodies in molluscum contagiosum are parasitic.

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SAMUEL SHERWELL, M.D., of Brooklyn, N. Y., followed with a paper on

ICHTHYOSIS CONGENITA (SO-CALLED HARLEQUIN FŒTUS). HISTORY OF A CASE STILL LIVING.

The cases reported of this curious congenital skin affection are so few in number, and so many of those, nearly all, in fact, having either been still-born or having lived only a few hours or days after birth; or, what is equally frequent, having been brought under the notice of the specialist, or particularly interested observer, some years afterward, when the life-history, etc., would be necessarily imperfect, I have deemed the following case, noted by myself from very shortly after the time of birth, worthy of a short report to this association.

The infant, Annie S., was first seen by me on the 19th of January of the present year, through the courtesy of Dr. R. A. Black, of Brooklyn, the family physician. The child was born December 21, 1893, of American parents, the father, however, of German descent. Both are quite healthy; in fact, far above the average, and aged 27 and 26 years respectively. The couple have two finely grown living children, girl of seven, boy of four years. The mother has had one still-birth at full time, and has lost one child of about a year old of an acute diarrhœic attack during a summer.

The mother gives no history of shock, or of anything likely to have caused a material impression on the fœtal life of the infant in question, but says, however, that she was more or less nervous from the quarrels of some of her relatives which occurred during gestation.

As well as can be estimated, this child was born at term; nothing about the labor was in any degree noteworthy except that it was a breech presentation, and, according to Dr. B., that during the necessary manipulation attending delivery, it felt more like a lizard than anything else. The absolute weight at birth was not ascertained, but was estimated at about two pounds. Placenta and membranes, the doctor states, were noted to be entirely normal. Mother convalesced rapidly. The doctor at first believed that the coating, which was estimated as from one-eighth to one fourth inch thick almost all over the body, was that of an unusually plentiful and abnormal vernix caseosa; but on closer examination found it so adherent and flaky, and the viability of the child so questionable that, instead of having it washed in the usual manner, he ordered it to be plentifully lubricated with olive oil and then wrapped in cotton, which, by the way, was and had been the only treatment adopted until I saw the child, a month later, and which treatment was continued by me for some considerable time after my first visit. The infant nursed

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very well, the dejections and urinary secretions, etc., fairly normal, and, although it was then in such an apparently non viable state, it had increased in size, etc., slowly but steadily, up to the date of my first seeing it.

On sight I confirmed the doctor's diagnosis of ichthyosis. The apparent state was very pitiable, and my prognosis as to long continuation of life was very unfavorable. It is difficult, without prolixity, to give an adequate idea of its condition at the time; it is almost sufficient to refer to the description and plate of Mr. J. Bland Sutton (reference later) and that of other writers on the subject.

The whole cutaneous envelope of the body and limbs, from the plantar surfaces to the vertex, was covered with soft horn-like scales, varying in degree, but say from at least one-eighth to one-sixteenth of an inch in thickness, the scalp with a still thicker deposit of apparently a more sebaceous and irregular character. I should judge there that it was at least one fourth of an inch in thickness. The natural flexures about trunk and limb were fissured to the derma propria, apparently here and there exposing the roughened true skin, and the whole appearance suggesting the fanciful name of harlequin fœtus that has been given to this condition. One thing, however, was manifest; there was no especial deformity or a special developmental lack, such as of cleft palate or orbital, oral or aural imperfections or of their annexa; the mucous membranes apparently not affected, or but slightly. Ectropion moderate, fissures only of moderate degree around or at the angle and sides of mucous membrane openings, so that it seemed evident, in spite of the extremely small size of the infant, that before delivery term had been reached, or nearly so; another fact bearing on this was that the nails, though affected, corresponded in development with the rest of the body..

At the February meeting of the New York Dermatological Society I gave a clinical report of this case, and extended an invitation to the members present to come and see it. I was so favored by only one of my colleagues, Dr. A. R. Robinson, a week or so later. But at the meeting of the same society April 24, 1894, I was fortunate enough to be able to present the case; about fifteen members were present, and I believe I can say that the diagnosis was confirmed by all.

I have on the average from my first visit up to the present time, a day or two since, made a visit every ten or twelve days, expecting at each of the first two or three of them to hear that the child was dead, or at the point of death; but to my surprise it still lives, and is even now doing well. Its general condition, while improved, owing to the assiduous care and devotion of the mother, is still a pitiable one, though the

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striking and repulsive objective symptoms are in large part removed. I cannot even now believe it will grow up.

Its present condition and treatment is as follows : The bathing with oil alone was continued for about the first two months, during which time olive and soft vaseline were used in great excess all over the body and head, so that eventually maceration with them and gentle friction had sufficed to remove what might be called the outer exuvial skin, and to permit of getting down to the more recently formed epidermis. That of the back and head was most resistant to this treatment. At this time it had an almost ridiculous resemblance to a "*Harlequin avec une tête de Pierrot.*" Shortly after, however, it evidently becoming a little stronger, sponge and other baths with alkaline water (generally borate of soda) were given daily, inunctions following. Sometimes these were of olive oil, sometimes vaseline ; later on ungt. aq. rosæ was used a good deal ; for a time I supplied this latter, but the mother, unable to buy this herself, although relatively poor, was too independent to ask for continued charity, and decided upon using mutton fat, somewhat softened, which she fries out fresh. As the child seems to be doing as well with this as anything, I have let her continue its use, adding a little ol. amygdal. dulc. to make it blander. My reason for not using the raw linseed oil, which is a favorite application of mine in somewhat similar affections, is that it oxydizes too rapidly, and would have been taken up by the cotton and formed a varnish and not an unguent. A patient should be naked and only lightly covered who would use this latter to advantage, in order that plentiful and constant, or at least frequent, reapplication be permitted.

Owing to the admirable cleanliness observed by the mother, and the frequent though relatively slight inunctions compared with those of former date, the appearance of the child's skin is much less striking than it was; even the casual observer would, however, notice the relatively thin general scalings, and that the skin seems thinner underneath this, but parchment-like, roughened at the back, etc., the palms and soles have a peculiarly bright and glistening look, but dry and pergamentous feeling, The infant lies all the time with the eyes closed, by preference, it would appear; it can open them readily, but I think the pain of the small, though constant fissures of the canthi causes this. The same may be said of the mouth, which is stiffened around what should be the vermilion border of lips. There is now no positive ectropion, as at first. If neglected as to bathing, etc., for a day, as I have once or twice required, there forms in the twenty-four hours an extensive aggregation of scales over the whole surface. The infant is very sensitive to cold, and the pruritus must be very great, as hands and feet are in almost constant motion from

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evident desire to scratch. The mother, without my order, but now with my permission, has to give it soothing syrup two or three times a day or night, for it and herself to obtain needed rest. It now weighs a scant seven and a half pounds, and the bowels and other viscera act almost normally, the only internal medicine that has been given at any time having been a few grains of hydrag. c. creta in fractional doses.

An examination by a competent histologist of a portion or portions of excised skin would have been doubtless desirable and interesting; but I may say that I have not as yet dared to ask the parent's consent. The mother to whom this child, in my belief, owes its continued existence, would rather part with her own. In case of its decease (as she is a very reasonable human being, however,) I think I could, and will try to obtain, some sections for examination. I may add in regard to the mother that she is quite a rosy, rotund, good-natured sort of a woman, the very type, to all appearance, of a good wet nurse. I think the above statement contains all the essential features of the case, and would in conclusion say that in my belief this congenital condition is only alleviable, not curable. As to the literature upon the subject, I have tried to arrange the names of those who have written on this condition and whose articles I have read as nearly as I can chronologically. I will spare you any long dissertation on their observations or conclusions; they can be looked up by those interested.

Richter of Leipzig, 1792, is the first recorded observer I can find, and he only as mentioned by Lebert of Breslau, 1864, who, under the title of "Keratoma Diffusum," published an article in which he mentions ten cases, of which Richter's is the earliest. Lebert particularly dwells upon the occurrence of this congenital condition in the lower animals, calves, etc.

Froebelius, *Petersburg Med. Zeitung*, 1865.

Sir Jas. Simpson, *Edinburg Med. Journal*, 1865.

Jonathan Hutchinson, *Lectures on Clinical Surgery*, 1879, and again in *Archives of Surgery*, 1891.

Kyber, *Med. Jahrbucher*. Wien, 1880. On case observed in Odessa, 1872.

Wheelock, *Illust. Med. and Surg. Jour.*, New York, 1884.

Behrend, *Berliner Klin. Wochen Schrift*, 1885, No. 6.

J. Bland Sutton, *Medico-Chirurg. Transactions*, 1885.

Caspary, *Vierteljahreschft. f. Derm. u. Syph.*, 1886.

Geo. T. Elliott, *Jour. Cutan. and Genito-Urin. Dis.*, January, 1891, and others.

All the prominent dermatological authors in their treatises make mention (sometimes a bare one) of the occurrence of this congenital con-

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dition. Among these Kaposi may be cited as defending the dictum of the elder Hebra that all viable children, at least, born in this condition, are affected, not with true ichthyosis, but ichthyosis sebacea. I do not think he is right in this the able articles of Caspary and Elliott and others would seem to disprove this assertion; and in this connection would also like to refer you to an interesting article in Pick's Archiv. f., Dermatologie u. Syphilis for this year, Band XXVII., Heft I., by S. Giovannini, entitled "*Ueber einen Fall von Ichthyosis mit hypertrophie der Schweissdrusen.*"

DISCUSSION.

DR. ZEISLER: As far as my experience goes, I have very rarely found that congenital ichthyosis is observed where neither of the parents has had any trouble with the skin. In almost all such cases it is hereditary.

Recently a whole family were brought to me suffering from this affection. The father, who had never done anything for the cure of it, had it in a most extensive degree, so that in places there was not only scaling but dark pigmentation. The four children had ichthyosis in a marked degree, according to their ages.

I agree with Dr. Sherwell that it is rarely curable, but I have convinced myself that persistent oiling of the skin will keep the patient in a splendid condition. I remember that in the case of a young lady, who had the trouble from her earliest childhood, the skin of her body being very rough, and on her hands very thick and tough, I succeeded, as regards the face and body, with the assistance of moderate salves, in keeping the skin in a very good state. These patients will learn to apply oily preparations daily as part of their toilet.

JAMES C. WHITE, M. D., of Boston, then followed with a paper on

CASES OF PITYRIASIS RUBRA PILARIS (BESNIER). ERYTHEME INDURÉ DES SCROFULEUX. LYMPHANGIOMA CIRCUMSCRIPTUM. MULTIPLE BENIGN CYSTIC EPITHELIOMA, AND ANGIOMA SERPIGENOSUM.

(CROCKER.)

PITYRIASIS RUBRA PILARIS (BESNIER).

It is not my intention to reopen before this Association the much-vexed question of the relations of this disease to the lichen ruber of Hebra, which has been the subject of such confusion in the discussions at recent national and international congresses of dermatologists, but to

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report an interesting case of an affection which is certainly rare in this country. I will merely state in the beginning that I have seen and believe in the existence of that inflammatory dermatosis, lichen ruber, originally described by Professor Hebra, and my opinion that it is in no way related to the keratosis I am about to briefly describe. I desire also to record here my protest against the liberty taken by certain eminent foreign dermatologists in their unrestricted statement that "lichen ruber des Américains" is synonymous with this affection. Some of our writers may hold this opinion, or have confounded the two diseases, but that is a matter of individuals.

The patient was a young lady, twenty-seven years old, who had always had a healthy skin prior to last October. At that time she noticed that her palms and soles were becoming red and scaly. A month later her scalp became "full of dandruff," and her face also turned red and "branny"; she then first noticed the appearance of the papular lesions here and there. Since then there had been a gradual development of the cutaneous changes up to the time when I first saw her, January 10, 1894. Her general health had remained unaffected.

Her face was at this date of a uniform, dull red color, looked glazed, and was slightly scaly and thickened. The whole scalp was covered with a thick layer of scales with very little apparent admixture of fat. The skin beneath them was not perceptibly reddened. The skin of the neck and upper chest, some four or five inches downward, was also uniformly red, slightly infiltrated, and considerably more rough and scaly than the face, possibly because less often washed than the latter. The palms and soles were greatly thickened, of a dull red tint, and the lines of phalangeal flexture were universally marked by deep and painful fissures. The extensor surfaces of the fingers were in a similar condition. The fingers were held in a semi-flexed position, and all movements of the hands and feet caused distress. Walking was very painful. The flexures of the elbows and knees were also converted into red and thickened areas covered with thin scales. These were the only portions of the integument which presented features of uniform, diffused inflammation, viz., hyperæmia, infiltration and desquamation.

Over all other affected parts of the body an entirely different condition existed. The mouth of nearly every follicle was occupied by discreet, firm, horny, hemispherical or conical papules, varying in size from the head of a small pin to that of a large upholsterer's tack. The whole surface of the trunk, front and back, was densely studded with them. They covered the entire extent of the legs in innumerable numbers. Upon the arms they occupied chiefly the flexor surfaces. Their color was slightly redder than the general tint of the skin, especially so upon

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the trunk, and upon some portions of this part of the body they were slightly scaly. The condition of the skin upon which they were seated, the interfollicular areas that is, was apparently normal. There was no marked hyperæmia, pigmentation, œdema, cell infiltration, or desquamation, although it was almost hidden from inspection where the papules were densest and largest. The smallest type of the lesions closely resembled those seen in ordinary cases of keratosis pilaris of the upper arm, but for the most part the trunk and limbs looked like no other dermatosis familiar to us. Considering their condition in connection with the wholly different appearances presented by the head and neck, hands and feet, we have a *symptomen-complex* which stamps the affection as one of unique and striking individuality. The nails had not undergone any marked change. The only subjective symptoms were a slight, occasional pruritus, and pain on motion of the hands and feet.

I would not be understood to state that a recognition of this disease is always an easy matter. Indeed, some of its phases, according to the locality affected, very closely simulate other affections, and judged by themselves, or before the more characteristic lesions have developed, might readily be mistaken for the former. Thus the scalp closely simulated the appearances of a simple seborrhœa, as it so often does in psoriasis as well. The face might have been regarded as a type of a mild eczema erythematosum, or pityriasis rubra (Hebra). The palms and soles presented the same appearances as in chronic eczema, or inveterate diffused psoriasis. A portion of the upper chest, where the papules were confluent and the redness most pronounced, looked not unlike an area of true lichen ruber acuminatus. The most characteristic lesions themselves, the discreet horny papules of variable size, and of different shades of red, gray and yellow, suggested the kindred disorder of keratinization, the common lichen pilaris and the mildest grades of keratosis follicularis (mine), or ichthyosis hystrix, if the latter two be not indeed identical.

I have met with one other characteristic instance of this disease, and two cases in children of one family not sufficiently advanced to make the diagnosis positive. These have all occurred in the past four years, since I had the advantage of familiarizing myself with its multiform aspects in the incomparable collection of the models made by Baretta to illustrate them in the St. Louis Museum at Paris. It may well be that it is of less rare occurrence in America than the statistics of this Association indicate, and that others, as well as myself, may have mistaken cases of less striking individuality than this I now report for some of the affections above-named it so strongly resembles.

I will make no reference to the pathology of the disease, which has been so thoroughly studied by Besnier and Boeck.

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I would, however, offer a criticism upon the name now attached to it. Its most characteristic lesion, that on which the diagnosis must chiefly rest, the horny papule, is not included in this pseudo-comprehensive descriptive title, and the condition generally implied by the term pityriasis exists only in the mildest degree, except upon the more restricted localities affected.

It is one more member of the group of keratoses, which demands our careful study.

Erytheme indure des Scrofuleux.

My attention has been especially held during recent years by some cases of rare occurrence with strongly marked features in common, and which I have not been able to assign to a definite position in our list of recognized diseases. No doubt I had seen them at an earlier period and had regarded them as anomalous forms of the affections they most closely resemble.

The first case which made itself prominently conspicuous by its individuality was a boy twelve years old, whom I exhibited to my class as a peculiar instance of erythema nodosum. The lesions were deeper seated, of larger size, and were more generally distributed upon the lower legs than usual. They continued to develop, too, over a period of many weeks, and many of them broke down and terminated in deep, indolent ulcers, which were remarkably refractory under treatment. The duration of the whole process I cannot give, as the patient ceased attendance upon the clinic before complete recovery.

The second case was a girl of eighteen or thereabouts. She came to the out-patient department with a few deeply-embedded nodules, the size of a filbert, upon the lower legs, perhaps half a dozen on each. They were all situated upon the lateral or posterior surfaces. A part of them resembled the deeper lesions of erythema nodosum, while others were more like gummata. During her attendance of two or three months similar processes appeared upon the lower extremities, and a few of smaller dimensions upon the arms below the elbows. Most of the former underwent a slow softening, and terminated in deep sluggish ulcers. The movements of her limbs were very painful, and her general condition was poor, so that she was taken into a hospital. While under my care she received a thorough course of antisyphilitic treatment, and the cutaneous lesions such local care as I bestow upon those of similar character in that disease, but without apparent impression upon them. In the wards the affection was regarded as a syphiloderm; and treated accordingly, but with as little response. I am unable to state the subsequent history.

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The third case was a girl nineteen years old, and the disease was confined to one leg. There were at the first visit four or five deep-seated, reddish purple nodules scattered over the posterior surface, which subsequently broke down at considerable intervals, and became exceedingly painful ulcers.

The fourth case was a young married woman, aged twenty-two. She reported that she had a similar attack, although far less severe, five years previously. I first saw her in November, 1893. She then had some half dozen nodules on the lower half of the lower legs, some of which were of two or three months' duration. The youngest of them were of a dusky purple color, while those of longest duration were of a dull brown tint. The largest extended deeply into and below the skin. During the succeeding four months many new lesions developed and underwent various forms of metamorphosis. Some of them softened and sloughed, and were converted into shallow or deep ulcers. Some of them slowly disappeared, leaving superficial depressions without other change in the surface of the overlying skin except in color. The smallest of them disappeared and left only the discoloration. The ulcers were extremely slow to heal, and terminated in depressed and discolored cicatrices. Six months after the beginning of the disease the affected areas were thickly occupied by such lesions, some twenty on each leg, varying in size from a pea to a half dollar, and in color from a livid red to a dark and dirty brown. Two of them only were seated immediately over the tibiæ, none of them were below the ankle. There was one, a small one of short duration, upon the forearm. In their early stages they were exceedingly painful to touch and on motion. One or two of them might have been mistaken by the brightness of their coloring, at first, for the ordinary manifestations of erythema nodosum. The patient was otherwise the picture of health and all her functions were in a normal condition.

Such is a brief account of the course of these cases, all of which had certain marked characteristics in common. The cutaneous lesions, while resembling those of erythema nodosum more strongly than those of any other dermatosis, differed from the same in many important respects. They were generally more deeply seated, as if their starting-point were in the subcutaneous tissues. They were more uniform in size, like marbles or bullets beneath the skin, and rarely presented themselves as small as peas, or like the flattened indurations so often associated with the larger nodules of erythema nodosum. They were more discreet and sparse, too, and were rarely grouped, as those of the latter often are. Instead of affecting principally the anterior surface of the lower legs, the shins, they were scattered mostly up and down the posterior and lateral regions of the same. In color they were markedly different. In

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the beginning the overlying skin was often of normal hue, and the nodules were to be discovered only by pressure, or by their slight projection, and only after one or more weeks did it assume a dull red, purplish or brownish color. They never presented the brilliant hyperæmic tints which sometimes characterize the early stage of the lesions of erythema nodosum, nor the later rapid changes of hue suggesting the descriptive title—erythema contusiforme. The course was very different, too, far more sluggish and prolonged. The nodules were sometimes weeks in developing, and months might pass before involution was completed. This might ensue by gradual absorption, but in a large proportion of lesions the overlying integument would slowly soften and break down and leave indolent deep ulcers. The destruction of tissue was by necrosis rather than by active suppuration. Occasionally the tissues immediately surrounding the nodules, or later the ulcers, would become inflamed, but not often to any wide extent. In all stages the lesions were tender on pressure, but never so excessively so as those of erythema nodosum. When many ulcers existed the limb might become very painful on motion, or when in a dependent position. Eventually the seats of some of the lesions which did not undergo ulceration were marked by atrophic depression, not very different in appearance from the sunken cicatrices left by the ulcers. Both forms were generally surrounded by narrow areas of a dirty brown color of undetermined duration. The general condition of the patients in two of the cases was excellent in the beginning, and until strength was somewhat reduced by the long continuance of pain and impeded ability of motion in the open air. In the others, the process might have been interpreted from the start as indicative of the impaired vitality which preceded. These patients were anæmic and feeble, although they were free from any serious functional or organic disease. In none of the cases were there any positive indications of the existence of tuberculosis or syphilis. There was a notable absence of all the acute febrile symptoms and of the lymphangitis, which often accompany severe attacks of erythema nodosum.

Now, what is the nature of this affection which has been observed by dermatologists in France, Germany and England in a sufficieut number of instances to warrant its recognition as an independent disease ?

Bazin was the first to recognize its individuality, and called it erythème induré des scrofuleux. An excellent description of it, with cases, by T. Colcott Fox was published in the August and October numbers of the *British Journal of Dermatology,* under Bazin's title. It has been, no doubt, generally confounded with erythema nodosum or syphilis by observers, so that we have no record of its real frequency. Its lesions resemble, too, the so-called scrofulous gummata. But have we any evi-

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dence which authorizes us to regard it as a manifestation of tuberculosis? I am not aware of the existence of any. Certainly I should not accept any as conclusive which did not rest upon the demonstration of the presence of the tubercle bacillus in the affected tissues, or possibly upon its uniform association with other forms of tuberculosis in the same individual. No satisfactory examination of the histology or bacteriology of the lesions has been made to my knowledge and we must await the results of sueh investigations before we may hope to learn anything definite as to its pathology.

Lymphangioma Circumscriptum.

In the autumn of 1892 I saw at my clinic at the Massachusetts General Hospital a man who presented the following appearances:

The left lateral thorax, from the axilla downward to the last rib, and from the nipple backward to the anterior edge of the scapula, was closely occupied by

1st. Groups of prominent vesicles, varying in size from the head of a large pin to a small pea, with very thick and firm epidermal coverings. The contents were colorless or of a dirty yellowish tint, and of rather thick consistence. On the borders of this space the vesicles formed small and sparse groups, but in the central portion they were densely crowded. By rupture they were converted into oozing areas of considerable extent.

2d. Large elevated crusts, thick and of very firm consistence, of a yellow or reddish color, formed apparently by the coagulation of the contents of the vesicles. They looked not unlike the crust of an eczema madidans, but were much tougher and of prolonged duration. Some of them were two or three inches in diameter.

3d. Crimson elevations of pea size, resembling angiomatous new growths of cock's-comb character. They were of firm consistence, and became slightly paler on prolonged pressure. They were sparsely interspersed among the groups of vesicles.

4th. Verrucous nodular masses of considerable size and height, some of them capped by dense horny concretions.

The whole inner surface of the upper arm down to the elbow, and connected with the above-described thoracic district by a continuous belt through the axilla, presented similar closely crowded lesions, but the crusts were more pronounced and the horny concretions more abundant. The appearances closely resembled those in Morris's plate in the first number of the *International Atlas of Rare Skin Diseases.*

At his first visit the whole integument upon which these lesions were seated was in a state of diffused dermatitis of intense grade and of an

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erysipelatous type, which extended for a considerable distance upon the chest roundabout.

The patient was thirty-four years old, and he stated that he had had a similar condition of the skin of the same parts when he was ten or twelve years old, and that he recovered under my care, but I find no record of the case at that time. The disease then began, his mother said, upon the arm, where a "congenital lump" existed, possibly a deeply seated nævus. The present condition had been present two or three years, according to his account, and during this period there had been several attacks of the acute dermatitis of brief duration, during which all the various lesions had become greatly aggravated and multiplied. During them, also, there were symptoms of constitutional disturbance, with sensitiveness of the skin and pain on motion of the arm, such as usually accompany superficial erysipelas. At other times—generally, that is—the local subjective symptoms were a slight tenderness of the surface over the oozing areas and a varying degree of pruritus. The general condition of the patient was excellent.

Under my usual method of treatment of erysipelas, the constant application of a lotion of carbolic acid, alcohol and water, the dermatitis quickly disappeared. Soothing and protective dressings were directed to be constantly worn. Under them the vesicles no longer underwent rupture, oozing ceased, and he was able to do his work, that of a motorman upon an electric street car. In February, 1893, the number of the peculiar vesicles had greatly diminished, the angiomatous (?) elevations were less conspicuous, and the most noticeable lesions were the large, persistent crusts and the horny verrucous masses.

The patient was not seen again for a whole year, until February, 1894. The appearances had undergone very little change. There had been no recurrence of the dermatitis, and very few new vesicles had developed, he stated. There were few fresh ones visible, situated chiefly at the edges of the thoracic area, and these looked partly dried up. They were of indefinite but long duration. The most conspicuous features were the thick and firm crusts which still covered considerable portions of the affected areas, which had remained for more than a year unchanged, and the closely compacted horny concretions projecting for a quarter-inch or more above the general surface. On removing these by force they were seen to be seated upon prominent spongy bases, which bled freely.

You are all familiar with the recent abundant literature concerning the various forms of disease of the cutaneous lymphatics. Cases have been recorded now by observers in England, France and Germany, and in this country by Elliott and Epstein. In addition to those of pure

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varix or cysts of the lymph capillaries, we find others intimately connected with similar modifications of the blood vessels, hæmato-lymphangiomata. Other associated forms of tissue change have also been noted, as angio-keratoma, pachydermia and fibroma. An admirable account of all these varieties will be found in Török's latest article.[1]

The anatomy of my case was studied by Dr. Bowen, who kindly presents the following report:

"A lesion of medium size was removed from the arm and hardened in alcohol. It should be said that the lesion selected was one that did not exhibit telangiectasic points upon its surface, nor was there any infiltration of the base or warty change. It was selected, in default of more varied material, as representing the earlier stage of the process. The chief feature found with the microscope was a collection of chambers, or cysts, lying in the upper portion of the corium and approaching very near to the epidermis, without, however, ever complicating it. These chambers, or cysts, were filled with a very finely granular material, together with an occasional leucocyte and some masses of fibrine. In many of the sections the contents of the cavities had escaped during the preparation or manipulation. The cavities were often divided into several subdivisions by septa formed of the unaltered corium. A well-marked layer of cells could be traced, forming an endothelial lining of the cavities. Some of these cells were rounded and full; others were of a spindle shape, or slightly flattened. There could be no doubt that these cavities were newly formed or dilated lymph-vessels and spaces, and this was proved conclusively by the fact that they could be seen to communicate with smaller, more regular channels below, which were evidently a part of the lymphatic system. There were considerable collections of round cells about these dilated or hypertrophied lymphatic vessels and spaces, but none in other parts of the corium. In the lesion examined but few large blood-vessels could be seen. Those that existed were usually situated in the corium below or at the side of the lesion, none above it. The epidermis was thinned over the lesion, the lower rete cells being flattened and compressed. The papillæ had disappeared in great measure. At the borders of the lesion, however, the interpapillary epithelial prolongations were considerably lengthened.

"The histological structure, therefore, accords perfectly with that of the cases of circumscribed lymphangioma that have been described. It is not possible to form an intelligent opinion from the study of a single lesion as to whether there exists here a simple dilitation of pre-existing

[1] Monatsheft für Prakt. Dermatologie, Band XIV,, No. 5.

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lymph channels, or whether there is a new growth, as is claimed by most recent writers. My impression is favorable to the latter view."

The secondary lesions in my case, the verrucous elevations of great prominence, with their horny coverings, which forms so conspicuous a feature in advanced stages of the disease were such as are found upon the lower extremities so commonly in elephantiasis. Very likely the recurrent dermatitis conduced to such hypertrophy of the superficial layer of the cutis. It is notable, however, that in spite of such attacks of erysipelas-like inflammation there was no pachydermia or true elephantiasis of the cutaneous tissues in general, as has been observed in other instances.

Multiple Benign Cystic Epithelioma.

I desire to report a case of this rare and much betitled affection, because one of the features it presents is unique and belies one of its descriptive names, The patient is a woman, forty-five years old, who was born in Stuttgart, and came to Boston thirty years ago. She was married at the age of twenty-two, and has had eleven children, of whom only three survive. The oldest of these is sixteen. They have healthy skins, and her relatives, so far as she knows, have been free from any form of cutaneous or carcinomatous disease. The first change in the condition of her skin noticed was at the age of twenty-four, when a few firm "pimples" of the same color as the skin appeared, scattered over the face. These never disappeared, but grew slowly larger, and others of the same character continued to develop up to three years ago. Some of them, she says, began to soften ten years ago, and of these several were removed by caustic plasters from time to time, leaving flat scars to mark their former seat. Within the last two years her general health has failed, so that she has been largely confined to her house. The menstrual function is still active.

Status præsens.—The patient is pale, but well nourished. The face presents some fifty lesions, which may be classified as follows: (Fig. 1.)

1. Flat papules or tubercles, varying in size from the head of a large pin to a split pea. They are of the color of the skin, and of about the same consistence. The smallest are only slightly elevated, and would scarcely be noticed except on close inspection.

2. Larger lesions, varying from pea-size to that of a dime, one of them as large as a quarter dollar, circular or ovoid in shape, but still not much more elevated than the smaller ones. They are all redder, however, than the latter, and the largest very much so; their surface is still smooth and level.

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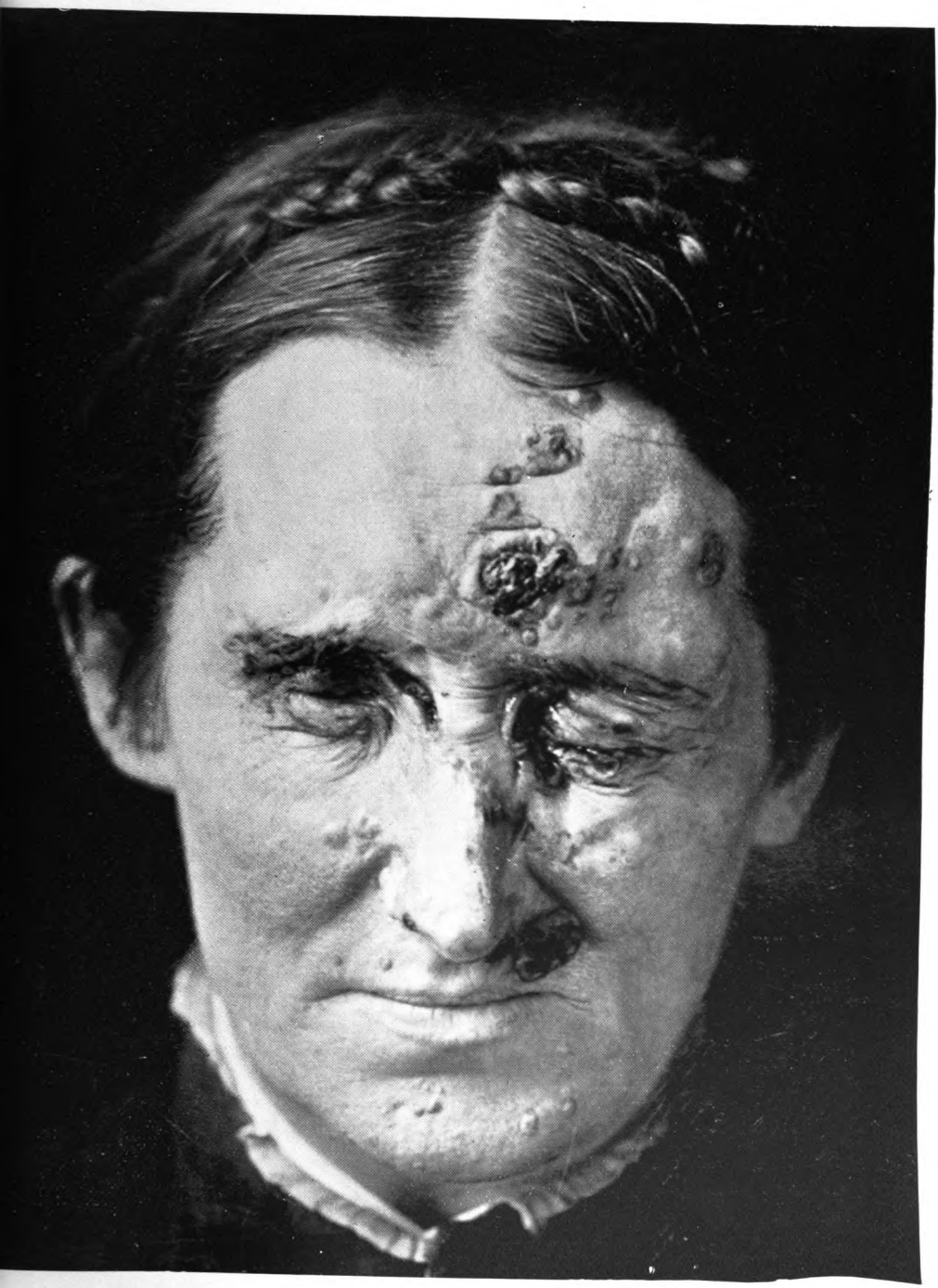

Fig. 1.
Multiple Benign Cystic Epithelioma.

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3. Others of medium size and upward, which are either somewhat depressed in the centre or have begun to soften and be covered with dull brown crusts of no great thickness.

None of these first three groups have a central opening.

4. Two or three lesions much more prominent, and presenting abrupt perpendicular edges and depressed centres, closely resembling Hutchinson's crateriform epitheliomata. These measure from one-half to three-fourths of an inch in their longest diameters.

5. The right upper eyelid is occupied by an irregular elongated ulcer, partly covered by a crust, with deeply infiltrated margins so that the lid can be only partially elevated. The inner third of both lids of the left eye and the side of the nose adjacent are the seat of open ulcerrtion, by which all the cutaneous tissues have been destroyed. The inner outlines of this area are marked by an elevated narrow margin of great hardness. The whole presents the characteristic appearance of the "rodent ulcer" type, and is the seat of frequent hæmorrhage. This eye is closed.

6. Scattered and smooth scars of irregular outline, where former lesions have been destroyed by caustics.

There are a few of the larger lesions also upon the neck, shoulders and forearms, but none of these have undergone any secondary transformation.

All of them are free from subjective manifestations, excepting the open ulcers about the eyes, which are very painful. The flow of tears over the open wound is very distressing, and there is often intense headache, described as penetrating from this locality inward.

You are familiar with the large number of names which have been given to this affection by the observers of individual cases, and which represent their respective views regarding its anatomy. It may be instructive to reproduce them here:

Hydradénomes éruptifs, Darier.
Cystadénomes epitheliaux bénins, Besnier.
Epithéliome kystique bénin, Jacquet.
Cellulome epithélial éruptif kistique, Quinquaud.
Gutartige epitheliom, Phillippson.
Syringo-cystadenom, Török.
Lymphangioma tuberosum multiplex, (?), Kaposi.
Epithelioma adenoides cysticum, Brooke.
Multiple benign cystic epithelioma, Fordyce.

These titles clearly indicate the nature of the anatomical changes which characterize the disease, and the divers interpretations which have been placed upon them by different observers. No one of them has

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studied it more carefully than our valued colleague, Dr. Fordyce, whose admirable communication upon the subject to this Association, at the meeting of 1892, you must well remember. I have the pleasure of exhibiting to you some micro-photographs of sections from his cases made subsequently to that date. An examination of the structure of the growths in my own case has been made by our fellow-member, Dr. Bowen, with his usual care, the results of which I will now present.

"Four lesions of different sizes were removed from the face and hardened in alcohol. Two of these, the smallest and one of the larger lesions, were stained *in toto* in alum, cochineal and rosin, imbedded in paraffine, and serial sections through the entire nodule obtained. Sections from the smaller lesion, which was not much larger than the head of a pin, showed, under the microscope, a compact area of epithelial cells lying in the upper portion of the corium without any distinct arrangement. This mass of epithelial cells was irregularly rounded in its outline, and the individual cells were seen to be of a similar appearance to those of the lower rete layers. On examining the sections mounted in series, those at the edges of the little tumor showed simply this nest of epithelial cells lying in the corium, and separated by a small belt of normal tissue from the epidermis. In many sections, however, especially in those near the centre of the nodule, there was a distinct connection between the lower rete cells and this epithelial area in the corium. (Fig. 2.) The epidermis, apart from this connection with the misplaced epithelial focus, was essentially normal. There was no connection between the epithelial area and the sebaceous, or sweat glands, which were, so far as could be seen, normal. One lacuna, round in shape, was present in this lesion in the midst of the epithelial area. Its walls were made up of a thin layer of flattened cells, so that it had the appearance of a cyst from which the contents had escaped. In one or two of these sections a small amount of corneous material was seen in the interior. The epithelial cells in the affected area were well stained, and no other appearances than occasional karyokinetic figures seem worthy of comment.

"In the other three lesions examined, which were all somewhat larger than that just described, a rather different picture was found. Epithelial masses in the corium were here also the essential feature, but a distinct arrangement in islands and elongated tracts was noted, the latter often suggesting, when seen with a low power, the course of a sweat-gland. With a higher power, however, these tracts were seen to be made up of compact masses of epithelial cells, and to be connected and intermingled with one another in a very complicated way. In the midst of these epithelial bands and islands small cysts were frequently seen, containing a granular or homogeneous substance, together with one or two large,

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deeply stained cells. In one of the lesions these small cysts were quite numerous, and in places the outline of epithelial cells could be traced which had lost their power of staining, and were evidently being converted into the homogeneous or colloid substance which occupied the interior of many of the cysts. In a few of the cysts, it should be added, a corneous substance was present in place of. or together with, the colloid change. In all of the tumors *a connection of the epithelial masses and tracts with the lower cells of the rete* could be demonstrated in some of the sections. There was no proliferation of the glandular structure found."

First described and individualized in 1887 by Jacquet and Darier in France, the affection has been recognized to exist sparsely in all countries where there are dermatologists of sufficient experience to distinguish it from other dermatoses which it most closely resembles and with which no doubt it had prior to the above date been confounded. But it can scarcely be claimed that we are yet completely acquainted with its clinical features. Considerable variation has been noticed in the course, seat and macroscopical appearances of the small number of cases which have fallen under observation; but this case differs widely in some particulars from any of those previously recorded. The lesions vary more in size, many of them far exceeding the dimensions previously noted. Thus Brooke says they never exceed the size of a pea. Fordyce mentions one in the mother's case as large as two peas as exceptional; other writers speak of groups of confluent lesions. In my case several of the lesions were half an inch in diameter, and one of them was an inch across. There were lacking in them the appearance described as embedded milia, and the black points or dots beneath the skin recorded in some of the other cases. Nor did any of the lesions have a noticeably translucent look, or exhibit in a marked degree the telangiectases mentioned by others. Their seat was principally the face, as in Brooke's and Fordyce's cases, but the neck, upper trunk and arms were also sparingly affected. There were none upon the scalp.

The most remarkable feature in my case, however, was the transformation of the oldest and largest lesions. Three or four of these had, in recent years, taken on the appearance of ordinary epithelioma in several of its advanced clinical phases, viz., scaling, crusting, and open, deep ulcerative destruction of the whole skin. If any one of the latter were alone under observation no other diagnosis than ordinary epithelioma would be entertained, whereas the great bulk of the lesions were just like those hitherto recorded as characteristic of the affection, the identity with which is fully established by the investigation of Dr. Bowen above given. How, then, shall we account for this highly important deviation

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FIG. 2.

Section of Multiple Benign Cystic Epithelioma.

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in course and prognosis from any of the other cases, which seems to belie, as I have expressed it, the accuracy of the paradoxical claim that here is a disease characterized by tissue changes universally regarded hitherto as malignant, and yet possessing indefinitely a benign character? Is it that some of the lesions in this case have undergone, by chance, as it were, a secondary malignant transformation, as the long-standing lesions of keratosis, verruca, tuberculosis and other benign dermatoses are known to do occasionally, or is it rather that this is to be the eventual fate of more or less of the lesions in every case, and that future reports will show, when sufficient time has elapsed in the history of all of them, that epitheliomatous tissue is bound in time to go to the bad? I am inclined to this latter view. Ten years ago, when this patient was thirty-five years old, every lesion would have appeared as "benign," as all those described in all other recorded cases, as the great majority in fact of those in my own case. The natural tendency of such modified epithelial tissue out of place to self-destruction will probably assert itself when it has encroached upon the normal cutaneous structures in such large accumulated masses as in this case, or when after middle life the vitality of the elements of both is impaired. The only record of a similar transformation is in the report of a case of "Hydradenom," by Hallopeau, in which one of the tumors on the eyelid became "epitheliomatous." It is to be hoped that the reporters of all recorded cases will hold them under prolonged observation, and publish their future history. In the meantime the correctness of the appellation benign must be regarded as problematical.

ANGIOMA SERPIGINOSUM.

(CROCKER.)

The patient was a boy, 12 years old, of delicate appearance and highly nervous temperament. His mother furnishes the following history: At birth a "purplish red mark" was noticed below the right shoulder blade, semi-lunar in shape, with its curved edge directed upward. Its longest diameter was half an inch. It increased very slowly in size in an upward direction until he was four years old, when another spot no larger than the head of a pin appeared near the original one, which gradually became larger, and since then the others have continued to appear and grow up to the present time.

The affected area forms a belt about three inches in width, extending

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from the anterior edge of the right scapula six inches forward to the nipple, its upper margin being on a level with that point. (Fig. 1.) This region is occupied by some twenty-four individual lesions, varying in size from a pin's head to circular patches two or more inches in diameter. The process begins in the form of minute elevated points, of a bright red color, which slowly increase in size until they are an eighth to a sixth of an inch in diameter. At this stage they are elevated from an eighth to a twelfth of an inch above the general surface, are of a bright red color, varying from scarlet to carmine, which can be made only partially to disappear by long pressure, and are of a firm consistence. Having attained this size they undergo involution at the centre, which slowly sinks down

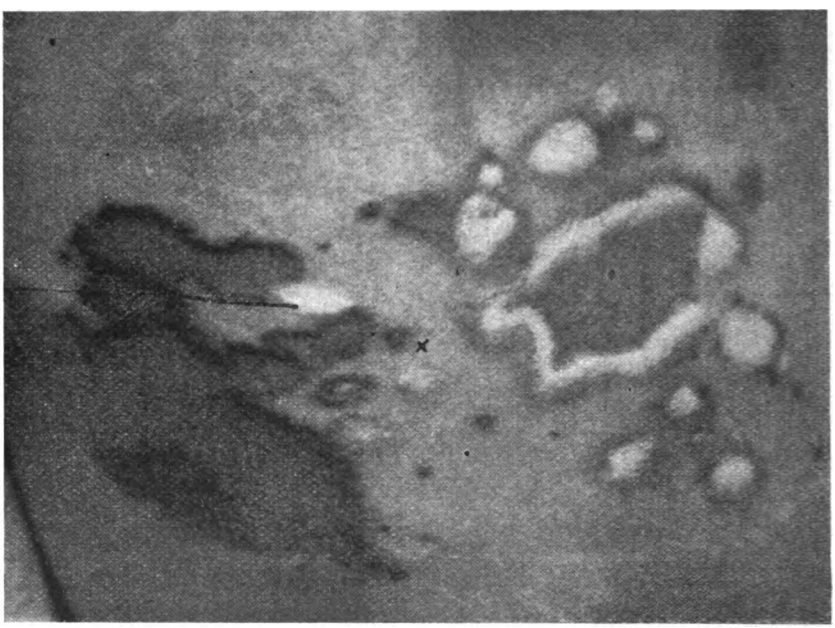

FIG. 1.
"Angioma serpiginosum." Black line points to first excision. x indicates the portion examined.

as the growth spreads peripherally. In this way rings are formed, and the disease progresses as an annular elevated margin, about one-eighth of an inch in breadth, slowly creeping outward, until by confluence with other lesions the regular circular shape is lost. This margin has the same characteristics as the original uniform patch, in color, elevation and consistence. Within the ring the skin has apparently returned to its

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natural condition, excepting in color, which remains of a dull purplish or dusky hue. New foci, in the shape of minute points, appear at some little distance from the older areas, and assume in time the same annular mode of progression with central involution. Only a very few minute points are to be observed springing up anew in the old central depressed areas.

In October, 1892, an attempt was made by Dr. H. W. Newhall, of Lynn, to destroy the anterior group of lesions, some seven or eight in number, by the Paquelin cautery. The operation was apparently successful for a time, for pale cicatricial tissue took the place of the former rings and smaller circular patches, which has remained without change, but the growth has gradually crept beyond these scars at every point at their borders and assumed its original condition.

We find, therefore, the following striking appearances upon the regions thus treated: Numerous small, circular, smooth, white scars, slightly depressed, surrounded by a narrow, elevated ring of a bright red color, and one large patch of irregularly oval form, two inches in its longest diameter, its central portion of a dull purplish color, the old untreated area of involution. Around this a belt, a quarter-inch in width, of pale scar tissue, and outside of this a narrow, elevated carmine rim of new development.

All the affected portions of the skin are sensitive on slight pressure, so that the patient shrinks from the touch of the observer, but he is of an excessively "nervous" temperament. The parts also itch frequently. There is no turgescence of the tissue.

There is no record of any angiomatous conditions in earlier generations.

Now, what is the nature of this remarkable affection? Apparently an angioma, which, beginning as a minute papule, like the well known "cayenne-pepper dots," slowly increases to the size of a pea, and then undergoes spontaneous involution in its central portion, while it spreads outward, in annular form, to an indefinite extent and for an indefinite period, so that after ten years circinate areas, one or two inches in diameter, are formed. The elevated margin, or ring, preserves a uniform breadth about its whole circumference, as though the process had a self-limited period of activity or existence, just as the life history of the vegetable growth, or the fertility of the epidermal soil in tinea circinata determines the breadth and duration of the ring as it progresses outward. New foci are continually developing some distance, one-eighth to one-third of an inch, beyond these older areas, which in turn are converted by central involution into the annular forms. The tissue, in all stages of activity, the small papules and the rings, in all their parts, present the

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same character—a firm, smooth, elevated structure, varying from a bright red to a claret color. The central areas, after involution, sink down to the normal level, but remain stained of a dull purplish-brown tint.

Mr. Hutchinson was the first to call attention to the remarkable peculiarities of this affection in his Archives of Surgery in 1891, and gave it the title, infective angioma or nævus lupus. He has published, also, a brief account of three other cases, one observed by Lassar and called by him lupus erythematosus, one by Tay and another by Jamieson in Great Britain. The four cases differ from one another in some respects, but the characteristic features, the progression in annular form and the development of the "satellites," as Hutchinson calls them, outside of the rings, were present in all of them. He seemed to regard the process as in some way allied to his lupus lymphaticus, which is lymphangioma, but this view may be considered problematical. The seat of the disease in these cases was, respectively, the upper extremity, the arm and lateral thorax, the face and upper extremity, and the lower extremities. Three of them began before the age of two. In one of them only was there positive evidence of the existence of a previous nævus. In none of them, it should be noticed, has any form of ulceration or malignant transformation been observed at last record. Crocker gives a description of the disease in his last edition, founded upon the above cases, under the title angioma serpiginosum, which seems to me to be a more appropriate one than that of Mr. Hutchinson.

That an angiomatous or nævus-like growth should invade new portions of the cutaneous tissue in this manner, progressing in a serpiginous or annular form, while undergoing uniform involution in the areas first infected, and at the same time to be developing new foci beyond its original seat, has seemed to me a process so novel and inexplicable that only the most careful study of its histology could reveal the nature of its mysterious pathology. At my request, therefore, Dr. Newhall very kindly removed one of the smaller lesions, which was just assuming the annular form. One portion of this was sent to Dr. Darier, the distinguished chef du la boratoire de la Faculté de l'Hôspital Saint Louis, Paris; the other was given to Prof. W. T. Councilman, of the Medical School of Harvard University, both of whom have made a most careful study of the specimen. Dr. Bowen had also examined a specimen removed some months previously.

Dr. Darier's report follows:

(Translation). The piece of skin which I have examined was sent to me in alcohol. In its preparation I have completed the hardening by the action of alcohol and gum. The sections made perpendicular to the

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surface have been submitted to various coloring reagents, and mounted partly in glycerine and partly in Dammar resin.

Examination by a low power shows, towards the middle of the sections, a lesion occupying the whole extent of the derma, and consisting of a mass of cells deeply colored by the reagents. These masses are more or less sharply defined at their borders, and present very diverse outlines, circular or ovoid, with festooned or angular margins, or drawn out into trails, which, in the sufficiently thick sections, seem to form, by ramification or anastomosis, a coarse network. In places where the section shows much of these cell-trails it can be seen that they occupy about a quarter or a third of it.

It is desirable to specify the relations which these masses of cells bear to the normal elements of the skin.

The epidermis is composed of its ordinary layers unaltered, and is not infiltrated by the numerous migratory cells, as occurs in inflammations.

The papillæ appear to be a little elongated and enlarged in the middle portion of the specimen, but the cell masses have nowhere penetrated into their interior.

These masses are, on the other hand, numerous in the sub-papillary layer, where they form in places a nearly continuous layer. In the corium proper one sees sometimes ovoid masses, sometimes streaks running parallel to the fibres, or ascending to ramify themselves on reaching the more superficial layers. Finally, in the deeper layer of the corium, upon the border of the hypoderm, where the sweat-glands lie, the masses of cells are abundant and large and are often seen in immediate contact with the glomerulus. Sometimes they penetrate it and the cells separate the loops of the glandular ball, but in spite of such intimate relations the tubes of the gland are always easily recognized, and are never invaded or destroyed. An elongated mass of the cells may often be seen accompanying the sweat canal for some distance. The other glandular structures of the skin and the muscles are healthy. The arterial and venous vessels of the hypoderm are normal. Those of the corium are all included and, as it were, drowned in the elongated masses of cells, and are to be recognized with difficulty or altered, as I will describe below.

In fact, the elongated streaks of cells are arranged along the course of the vessels, following them in their distribution, and stretching themselves out in sheets about the glomeruli and especially on a level with the sub-papillary plexus.

The cutaneous tissues between the cell masses are scarcely or at all altered. In the papillæ the cells are, perhaps, a little more numerous than natural. There is no modification in the fibres and cells of the

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corium. The border of a mass may be seen at some points to connect with a capillary network surrounded by some cells. The sections colored by orcein, according to the method of Tänzer-Unna, with the nuclei colored by methylin-blue, show the elastic network perfectly preserved, and not even interrupted or broken by the elongated cell masses, which only insinuate themselves between its meshes.

It remains to carefully study the new-found cell masses to determine their nature. With high powers applied to sections colored by hæmatoxylin methylin-blue, picro-carmine, or alum-carmine, it may be seen that the elements of which they are composed are cells, having, for the most part, a fusiform, aplastic, or angular shape. Their protoplasm is abundant, and the nucleus is generally oval in form. They present the characteristics of young connective-tissue cells, and bear the strongest resemblance to such cells of the neighboring interfasicular spaces.

This is manifestly no question of epithelial cells, but of cells having a mesodermic origin. Nor are there any more migratory cells or leucocytes, although there are in their midst sometimes an uncertain number of elements of the latter kind, recognizable by their smaller size and diminutive nucleus, and by being more deeply colored and often bosselated, but they are in great minority. This fact furnishes conclusive evidence that we have not to do with a subacute inflammatory lesion of perivascular seat, as one might think on superficial examination. The persistence of the elastic tissue, which disappears, as a rule, in contact with inflammatory foci, and the absence of migratory cells in the intermediary tissues and epidermis, are additional arguments in the same direction. (I have seen upon the borders of young tumors of the mycosis fungoide of Alibert and Bazin young elements of an analogous appearance and distribution, but in such a case the elements are nearly all round cells identical with leucocytes).

Moreover, a careful examination of a fine section permits certain details to be recognized, which are of great importance. In all the masses the flattened cells have an evident tendency to group themselves concentrically about a certain number of centres. Such a centre is very often made up of two or three cells of the same nature attached at their edges and forming thus a canal. Sometimes the opening of the canal is very small and empty, sometimes it contains one or more leucocytes, or even granules, which appear to be the débris of blood globules (altered by alcohol). At two or three points I have seen the centre occupied by a cell much larger than the others with several nuclei (a vasoformative cell ?).

It appears, then, that we are dealing with a new formation of capillaries at the expense of the elements of the neoplastic tissue. These

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capillaries are sometimes perfect, sometimes abortive, and on the other hand sometimes dilated to a considerable degree. One finds, in fact, vascular cavities circumscribed by a single row of flat cells, and presenting the dimensions of an enormous arteriole. By the side of capillaries cut transversely there were others where the section had been made obliquely or longitudinally. The dilated vascular cavities are generally empty, but in some of them more or less altered red globules were observed. A certain number of these dilated capillaries are to be observed in the sub-papillary layer of the corium.

How, then, is this lesion to be classed, and what name shall be given it ?

A neoformation, non-inflammatory, composed of cells of the type of young connective-tissue cells, ought necessarily to bear the name of *sarcoma.* But it will be observed that we are in the presence of an unusual form of sarcoma, not massed in a single tumor, but reticulated and infiltrated as a network, which appears to follow the normal distribution of the vessels of the skin. There is, moreover, to be noticed the tendency which the cells of this sarcoma have to form networks and clusters of more or less dilated capillaries, that is to say, to transform themselves into a true *angioma.* The epithet, angioplastic or vasoformative, would express this peculiarity.

I will conclude by proposing for this new formation the title : *sarcome angioplastique réticulé.*

I have never seen hitherto a case which completely resembles this one clinically and anatomically, but I have seen and studied many ordinary angioplastic sarcomas. I should remark, moreover, that it is very common to find in certain nævi, those designated as *verrues charnues* (verruca mollis), cell products very analogous to those of this case. One may find, for instance, in the corium, elongated masses of cells, having the appearance of sarcomatous or endothelial cells, which have at times in their centre an empty space so well marked that it is a question of a new-formed capillary. Some parts may be distinctly sarcomatous--at other times the cells of the neoplasm are pigmented.

The benign congenital sarcomas (for which one has proposed the name of endotheliomas improperly, seeing that endothelial cells are of the same nature as ordinary connective tissue cells) may, under some unknown influence, give rise to invading sarcomatous tumors, and even to a generalization of simple, melanotic or telangiectasic sarcoma.

The information which I have received, that this tumor stated upon the surface of a nævus, leads me to think that it is a case of this sort, that is, a *nævus à structure de sarcome angioplastique devenu envahissant.*

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Here follows the report of the examination made conjointly by Prof. Councilman and Dr. Bowen :

"Two portions of tissue taken at different times from lesions presenting the same characteristics were investigated, one of these somewhat larger than the other. Both were hardened in absolute alcohol, stained in various media, cut in serial sections and examined. The various methods of staining did not bring out any especial differences in the histological details. The stainings which gave the best results were a com

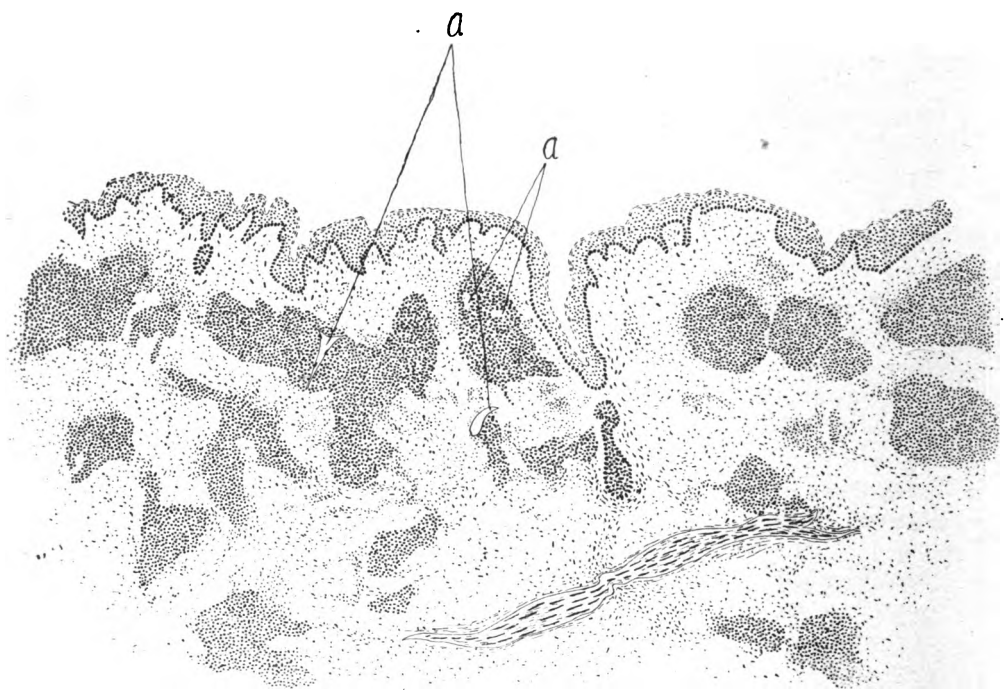

FIG. 2.

"Angioma serpiginosum." Showing cell groups in the corium. *a a* dilated lymphatics in cell groups x 60.

bination of hæmatoxylon and eosine, and safranine. For the investigation for bacteria sections were stained in Weigert's fibrine stain, with and without a counterstain in carmine. The epidermis and the epithelial appendages of the epidermis, such as hair follicles and sweat-glands, present no alteration. (Fig. 2.)

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The inter-cellular tissue of the papillary layer and of the corium generally is unaltered. The special pathological condition consists in groups of cells distributed in the corium. In general these cell groups are fairly well circumscribed. They vary in size. and their general arrangement is parallel to the surface of the skin, although there are numerous exceptions to this. The groups are rarely round. but have a longitudinal shape, frequently extending in long masses, which sometimes appear to be formed from amalgamations of neighboring groups. Along with the perfectly definite cell groups there are other places which show a more or less circumscribed increase of cells, which have generally the same longitudinal arrangement as the definite groups. Few of these extend up into the papillary layer. In general the number of cells in the papillary layer is not increased, although here and there rows of cells are seen. In this layer the rows of cells generally have a direction perpendicular to the surface. Examined with a high power the cell groups show a considerable degree of difference. This concerns not only the number but the character of the cells in different groups and in different parts of the same group. The nuclei have a general direction parallel to the course of the mass. They stain brightly with all of the staining reagents used. They are large, oval in form, and have something of the appearance of the nuclei of epithelioid cells. They are surrounded by a small amount of protoplasm, and the individual cell boundaries cannot always be distinctly made out. In all of the groups of cells, without exception, an arrangement into smaller groups or clumps is apparent. This is more definite at the periphery of the nodule than in the interior, although even in the interior it is appreciable. In the periphery there are frequently closely packed groups of cells, often showing a formation around a lumen, with rows of cells around this concentric to the inner group. (Fig. 3.) Between these masses of cells there are long fusiform nuclei, also showing the group arrangement and possibly to be referred to longitudinal sections of the cell groups. In some parts of the group the cells cease abruptly, in others they extend various distances into the surrounding tissue. In the vicinity of the nodules and frequently at a distance from them, various changes in the vessels can be made out. The changes consist in swelling and proliferation of the endothelial cells of the vessel, frequently combined with proliferation of the cells on the outside, so that two rows of cells can be distinctly recognized. These vascular changes apparently affect small veins and capillaries. No lesions were found in any of the arteries which could be recognized as such by the presence of a muscular coat. Most of the cells are of the same general character. Here and there a few smaller cells, corresponding to the small round cells of granulation tissue, are evident, and there are a few

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poly-nuclear leucocytes. There is no evidence whatever of anything corresponding to inflammation. The vessels of the cell groups are anæmic rather than turgid, and there is no general leucocytic infiltration. A marked peculiarity of the process consists in the presence of small granular masses here and there in the cell groups. Some of these, cor-

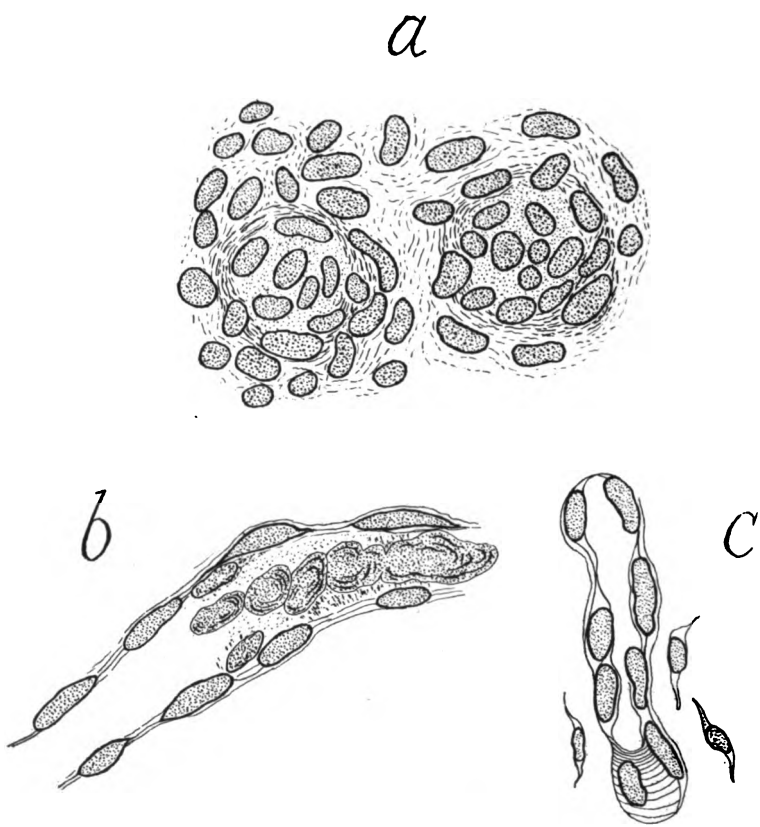

FIG. 3.

"Angioma Serpiginosum" (*a*) From margin of one of the large cell groups, showing arrangement of cells in concentric clumps.
(*b*) Vessel from margin showing mass of degenerated cells.
(*c*) Vessel in vicinity of cell group, showing proliferation of endothelium.

responding to the course of the section, are round, others longitudinal. In the hæmatoxylin and eosine stain they are colored more brightly with eosine than the rest of the section. They are not sharply circumscribed, they are granular and show no definite structure. In some of them por-

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tions apparently more solid than the remainder are seen. In sections which cut these structures longitudinally they are long, irregular, and frequently have pointed ends. Here and there in the centres of the cell clumps a number of cells can be seen more granular and not staining so brightly as the surrounding cells, and every gradation between this and total necrosis of the cells can be made out. These structures are rather more common in the smaller groups of cells where the nuclei have a more distinctly longitudinal arrangement, corresponding rather to cicatricial tissue. In some of the sections, notably in those first examined, the cell groups are frequently arranged around spaces and fissures in the skin, evidently corresponding to lymphatics. Where this is the case, the nuclei of the space appear to be swollen and slightly increased in number. Here and there in the surrounding tissue blood-vessels, usually small vein and capillaries, show a considerable degree of dilatation. These dilated vessels generally show no other pathological condition. The bundles of non-striated muscular fibre are prominent and possibly somewhat increased in thickness. No connection of the process with the cutaneous nerves could be made out. Staining with the appropriate reagents revealed a considerable number of plasma cells within the affected area. It could not be seen that they were more numerous in and about the cell groups than in the tissue of the corium generally, although they were certainly more numerous in the area occupied by the lesion than in the adjacent normal tissue.

When we regard the process as a whole, it would seem evident that it is one intimately connected with the vessels of the skin, affecting certain groups of vessels. This is shown both by the arrangement of the cells in the groups and by the general course and position of the groups. The groups frequently appear in the neighborhood of dilated lymphatics, but the process is one affecting the blood vessels rather than the lymphatics. It would seem to begin by a proliferation of the endothelium of the vessels accompanied by a corresponding proliferation of the perithelium. The single small masses of cells in the groups with concentric arrangement of the cells around them admit of no other interpretation. The central clumps of cells show every phase of degeneration, and the granular masses are evidently to be referred to necrosis and coalescence of these cells. The fact that this degeneration is chiefly seen when the cells are few in number and when the process is evidently of older date seems to show that with the advance of the cell proliferation in the vessels there are at the same time degenerative processes going on, leading to the destruction of the vessels and the cessation of the circulation. No complete new formation of the blood-vessels is apparent. Where the cells are thickest the process shows a certain degree of activity, which can be judged by

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the presence of nuclear figures. From a purely histological consideration of the growth it may be compared to an angio-sarcoma, it being understood that with this name only the histological appearance is taken into consideration. The cause is possibly to be referred to that underlying tumor formation in general, it being due to some anomalous congenital condition of the vessels. There is nothing in the histological characters which would lead us to regard it as in any way analogous to the infectious tumors.

In conclusion, we wish briefly to call attention to the histological appearances found in congenital as well as in acquired pigment spots of the skin by Demiéville (Virchow's Archiv., 1880), and since confirmed by other observers. "Nests and strands" of cells are found in the corium, produced by cellular infiltration of the adventitia of the blood-vessels, and the vessels exhibit also a constant proliferation of their endothelial cells. Ziegler refers to these nests and strands of epitheloid cells as occurring in a variety of cutaneous formations, which are mostly congenital or developed in the earliest years. To these formations he gives the name of cellular nævi. While the lesions that we have been describing present peculiarities not seen in those hitherto reported, the points of resemblance are sufficiently striking to warrant the conclusion that in certain respects this case offers no analogy histologically with the congenital and acquired pigment spots, as first studied by Damiéville.

A comparison of these two reports, made independently after prolonged and most careful study by such eminent experts in France and America, is of great interest. They differ in no essential respects so far as relates to the actual changes in the cutaneous tissues, although they do not entirely agree in their interpretation of the same. They coincide in recognizing that the growth is made up in the main of masses of endothelial cells. Darier emphasizes the constructive nature of the process in pointing out the agency these cells take in the formation of new blood-vessels, whereas Councilman and Bowen call attention to the degenerative character of the process going on in the vessels, and recognize only a proliferation of the perithelial and endothelial cells of the vessels. The latter state that the growth may be compared histologically to an angio sarcoma, whereas Darier calls it unreservedly a sarcomatous neoformation, an angioplastic sarcoma.

Other and better known types of sarcoma associated with telangiectasis, such as the case reported to this Association by Dr. Hardaway in 1882, have been observed to undergo involution in their central areas, and to progress in an annular form—and this is true also of some pigmented varieties. In our case no extravasated or modified blood pigment

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was observed, although no examination of the older and stained central portion was made.

Accepting, then, the relation of the case to sarcoma as established by the investigations of these accomplished pathologists, whether it be that of a close resemblance only on the one hand, or of absolute identity on the other, it is evident that the prognosis must be unfavorable, and that the probable development of some eventual malignant transformation in the nature of the process should not be disregarded.

It is to be hoped that this thorough study of the anatomy of our American case of this rare disease may lead to a similar investigation of the English and German cases, as reported by Hutchinson and Crocker, so that we may know if all five of them, which bear so close a resemblance to each other in their clinical features are really identical. In the meanwhile the title suggested by Darier is certainly more appropriate to the case I have presented to you.

In conclusion I desire to record my sincere thanks to the distinguished pathologists who have given me such important assistance, and who have contributed to this report its chief value in discovering the true nature of so rare an affection.

DISCUSSION.

DR. COUNCILMAN: In the last case which Dr. White had reference to, the angioma serpiginosum, I was much interested in the microscopic sections which were made by Dr. Bowen. We went over the sections together, and I agreed with him in his conclusions. The case seemed to offer some points in the pathology of the skin with which I was unfamiliar, the most interesting being the evidence it presented of the retrogression of the growth. The blood vessels seemed to be chiefly involved in the process. As the drawing shows, the growth consisted chiefly of small masses of cells in the corium; there was absolutely no alteration in the epithelial cells of the skin. The general structure of the corium showed no alteration, with the exception of these small masses, made up of cells which were unlike the ordinary granulation cells which we find in chronic inflammation of the tissue everywhere. The nucleus was epitheloid in character. The especial characteristics of the growth could best be studied in the periphery of the nodules. In the blood vessels, at a short distance from the periphery of the nodules, there were evidences of proliferation of the endothelium and perithelium. In the cellular mass one could see small nodules composed of close aggregations of cells. It seemed to me that it was clear that there was in the first place a growth of the endothelium and perithelium of the vessels of the corium; at the same time there may have been along with this a new formation of blood vessels.

The greatest activity of growth in the nodules was seen in the very

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smallest and at the periphery of the larger nodules. In places where the cell masses were not so thick, there seemed evidence that the growths were undergoing retrogression. In those smaller masses we found very curious structures; in small spaces, which we believed to be blood vessels, there were small granular masses, which appeared somewhat like some of the amœboid forms of the lower organisms, but we concluded they were not such. We made out that these small masses, which occupy the centres of the cell groups, were composed of confluent degenerated cells. It seemed probable that after the formation of the nodules by the proliferation of the peri and endothelium certain of the cells may have undergone degeneration by a shutting off of the blood supply, by actual occlusion of the blood vessels by the masses of cells. Certainly at the periphery of the larger nodules where the growth was taking place there was a marked change as compared with other portions of the tissue. As to the nature of the growth Dr. Bowen and I regarded it as rather an angio sarcoma. It does not correspond to the ordinary type of angio sarcoma, because under that title a pathologist would mean a tumor originating from blood vessels, and usually pursuing a rapid and fatal course. Still, this evidently is a sarcoma. It certainly is not an inflammatory growth; it originates in the blood vessels of the corium by proliferation of both the endo and perithelium and the small masses of cells in the nodules represent such a formation. The cells afterward undergo atrophy and necrosis, which explains the retrogression of the growth.

Dr. Bronson: In regard to the first case presented by Dr. White, that of pityriasis rubra pilaris, it would seem to me that while its features are sufficiently characteristic, the case is not an absolutely typical one. As I have met with the disease the inflammatory symptoms were not so marked as in Dr. White's case. It would seem as though in the latter there was some complication present. The fissuring and erosion about the palms would suggest an eczematous element. One of the most characteristic signs in connection with the disease is the occurrence of little horny papules on the back of the fingers between the joints. This was absent in Dr. White's case. With regard to the nomenclature of the condition, I agree with Dr. White that it is badly named. Why should it be called pityriasis? At the stage of subsidence of the disease there is pityriasis, but not in the state of maturity. The disease is to all intents a lichen.

With regard to the second case presented by Dr. White, as *erythème induré des scrofuleux,* strongly suggested to my mind what has been described by Maurice and others as syphilitic erythema nodosum, not that syphilis is necessarily the cause in this case, but that some analogous cause, such as scrofula or tuberculosis, produces an erythematous disease modified in a similar way.

In regard to the last case, I would only say that it seemed like a rare form of lupus erythematosus.

Dr. Sherwell agreed with Dr. Bronson that the eruption in its early stages, looked more like a lichenoid than a pityriasic disease, so that the name, while convenient, perhaps, and well recognized, was not a happy one. He did not concede, however, that it was in course or kind related to lichen ruber.

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DR. DUHRING: As Dr. Bronson has remarked, there seem to have been features in the case not usually met with. In several cases of the disease that I have met with in Philadelphia from time to time, I have been struck with several points to which I would allude, especially that the disease presents a distinctly different appearance, as it may appear on one part of the body or another, especially whether upon the hairy or non-hairy parts. The first case I observed was diagnosticated by me as being probably follicular psoriasis. I think that the disease, when occurring on the hairy parts, as, for instance, the back of the hand, has distinctive features, which are wanting when it occurs on some other parts, as, for instance, the forehead. The idea of lichen never occurred to me; therefore I cannot agree with Dr. Bronson or Dr. Sherwell, that it may be allied to lichen. I would further remark that the cases that I have seen and followed have been distinctly milder in type than in most of those reported, more especially than those in Europe; they seemed amenable to the milder treatment that is employed in psoriasis. Again, I have seen this disease pass off and recur after an interval of two or three years. While the term is not altogether acceptable, I think it advisable to keep it for the present.

DR. HYDE: I presented before this association at Milwaukee a young patient affected with pityriasis rubra pilaris. Dr. Crocker and others here present pronounced it a typical case of the disease. I wish to confirm the statements made by Dr. Duhring. If one of us should present one of these patients before a clinic attended by senior medical students they would at first almost certainly pronounce it a case of psoriasis. Only an expert would recognize the special process which furnishes the great points of difference. Dr. White's case is clearly one of pityriasis rubra pilaris. The author describes properly the condition of the scalp. One might almost conclude it to be of the type of eczema seborrhoicum from his notes. The minute blackish puncta upon the dorsum of the phalanges, especially upon that of the middle phalanx, is characteristic. The French lay great stress upon this as a diagnostic feature.

As to the name: For the present I think we had better hold to it. There is a pityriasic look about the skin. There is objection to any lichenoid title for the disease.

With reference to the second case here reported—*erythème induré des scrofuleux*—I think that, after seeing a few more cases, Dr. Bronson will agree that they are not of a syphilitic type.

DR. HARTZELL: As to the case of erythème scrofuleux: I saw a case of this kind some years ago, and since reading up the subject have become convinced that it was a case of this kind. Before arriving at any definite conclusion as its nature I had made sections of some of the lesions and there the histological changes were such as were found in tuberculous lesions.

As to its clinical features, they were those which have been described. I do not think there is any doubt about the diagnosis.

DR. STELWAGON: Pityriasis rubra pilaris was a condition that I never recognized until seeing the case that Dr. Hyde showed us at Milwaukee. I have seen a case since then within the last few months.

Dr. Duhring has referred to a case which I also had the pleasure of seeing and which I diagnosed as follicular psoriasis. In the patient I

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have had recently the eruption developed rather suddenly; in the course of two or three months it was quite extensive, involving also the whole scalp, in which region it presented the appearance of psoriasis; a lichenoid appearance in the areas on the truuk and neck was also noticeable. This case is doing well.

DR. ZEISLER, on account of the peculiar condition presented in Dr. White's case, suggested the name keratopityriasis rubra pilaris.

DR. WHITE: The negative evidence, considering the sparseness of the bacillus in some forms of tuberculous growth, would seem to offset the evidence which Dr. Hartzell offers on the other side. I do not think in possible to confound this disease with erythema nodosum.

With regard to Dr. Bronson's suggestion of lichen, it depends upon the definition of lichen: if he means simply a papular disease, it is right; if he means an inflammatory diseases it is wrong, as there is no inflammation. I do not think that this case, nor the three or four others that I have seen, could be mistaken for psoriasis. It is a very rare disease; there was no case seen by my son at the Paris clinic during last year. The scales which cover these inflamed non-hairy parts, though they might look like those of a diffused dermatitis, I do not think would suggest psoriasis; it is more a condition of pityriasis.

M. B. HARTZELL, M. D., of Philadelphia, Pa., then read a paper entitled

THE PROTOZOA-LIKE BODIES OF HERPES ZOSTER: A CONTRIBUTION TO THE STUDY OF PSOROSPERMOSIS.

The pathological changes which occur in the skin in herpes zoster are described in text books upon dermatology, almost without exception, as similar to those found in other vesicular diseases; as, for example, eczema. It is the purpose of this paper to show the inexactness of this statement, and more particularly to call attention to certain bodies resembling more or less closely protozoa, which are always to be found in the vesicles of zoster at a certain stage of their development. These structures are not present in the ordinary inflammations of the skin, but are peculiar to zoster, variola, vaccinia and varicella. They exist in such numbers and are so remarkable in appearance that it is difficult to understand how they have failed to attract the notice of those who have studied the pathological anatomy of the first-mentioned disease. Pfeiffer first accurately described them a few years ago, but his observations have received little or no attention. It should be added that, while this author first called attention to them as occurring in zoster, Weigert had previously described, under the term coagulation necrosis, similar struc-

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tures found by him in the pustules of variola. Pfeiffer rejects the notion that they are the result of pathological changes in the epithelial cells of the rete mucosum, and believes that they are parasites of the order of protozoa which, having gained access to the skin through the medium of the intercostal blood-vessels, produce the eruption characteristic of the disease. More recently Wasielewski,[1] who has collected a large number of cases, has joined the ranks of those who believe that zoster is an infection, and has expressed the opinion that it is due to these so-called protozoa, as Pfeiffer first suggested.

In the early stages of the eruption, before the lesions have reached their full development, these bodies exist only in small numbers; with the complete evolution of the vesicle they increase rapidly, forming a large part of the cellular elements present; but with the appearance of pus they can no longer be found.

For the sake of convenience in description they may be broadly divided into three varieties, which are tolerably distinct from one another, but are seen occurring together in the same vesicle.

The first variety, which is by far the most numerous, consists of perfectly round, or slightly oval, cells about the diameter of the polygonal cells of the rete, having a sharply defined, in most instances double-contoured wall, and one, or at most two, nuclei in the center. (*Vide* Figs. 3 and 4.) A considerable number of them are usually undergoing division, and in consequence their occurrence in pairs is frequently noticed. Their situation is usually at the bottom of the vesicle, forming a considerable part of its floor, and most abundant at the periphery.

In the midst of these round cells are seen the second variety scattered about irregularly, usually single, but occasionally joined together in pairs. These are much less numerous than the cells just described, but are enormous in size when compared with them, having a diameter three or four times greater than an ordinary epithelial cell. They consist of three distinct parts: (a) the cell body proper, a broad ring of tolerably uniform width without any external limiting membrane surrounding (b) a thick internal wall or capsule, which in turn encloses (c) a large cavity in which are contained from three or four to a dozen or more round or oval cells. (*Vide* Figs. 1, 2 and 3.) These various parts show marked differences in their reaction to staining fluids; the cell-body stains much more feebly than other parts of the structure, carmine scarcely staining it at all, but the internal capsule and the cells contained within it stain intensely. Examined with a high power, still further details of structure

1 Correspondenz-Blättern des Allgemeinen Aerztlichen Vereins für Thüringen, Jahrgang, XXI., No. 5.

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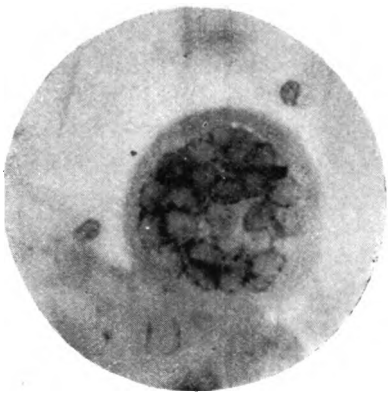

FIG. 1.

Cell resembling a sporocyst.
1/15 Homo. Im. A. oc.

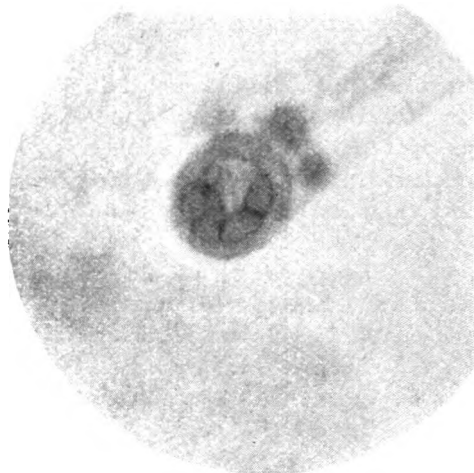

FIG. 2.

Same variety of cell as Fig. 1, but much smaller.
1/15 Homo. Im. A. oc.

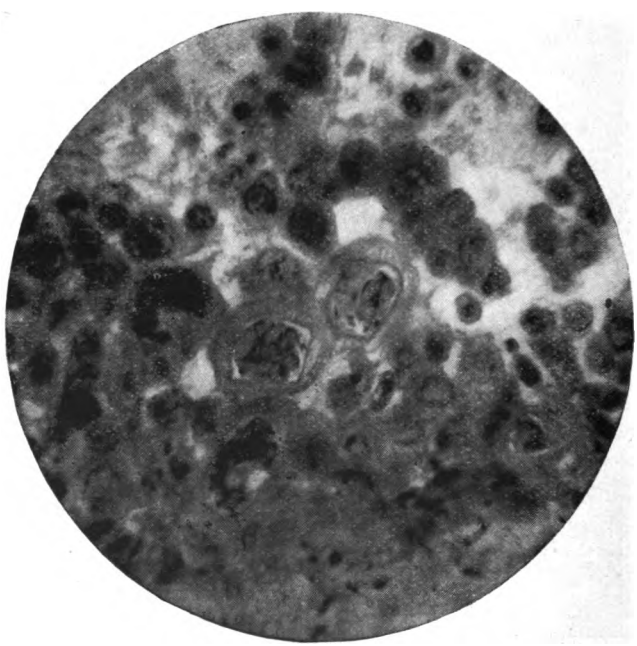

FIG. 3.

Two cells of the second variety joined together and surrounded by numerous cells of the first kind.
1/15 Homo. Im. No. oc.

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become visible; the body of the cell shows a distinct but delicate irregular mesh-work, possibly produced by the action of fixing agents; the thick internal wall is found to be laminated, consisting of several layers, and the small cells contained in the central cavity are seen to be provided with round or oval nuclei and surrounded by a membrane which contains numerous small nodes arranged at regular intervals, which give it a peculiar dotted or beaded appearance. A further peculiarity is noticed in the fact that the nuclei of these small intra-capsular bodies stain rose-red with Biondi's fluid, instead of green, as is the case in the nuclei of ordinary cells. The entire structure bears a very close resemblance indeed to the sporocysts found in cases of epithelial cell infection in the kidney of certain snails and in beetles, as described by Pfeiffer. Certain minor variations from the form just described occur with considerable frequency. In some instances the internal cavity, instead of being round, is angular in shape, probably the result of external pressure, and the small cells contained therein, instead of the beaded wall described above, are surrounded by a membrane of uniform thickness. It should also be noted that in a few instances traces of structure resembling the prickles of the epithelium of the rete were observed.

The bodies of the third variety resemble in a general way those just described, but they have certain peculiarities of structure and more particularly of shape which entitle them to separate consideration. They are extremely large, pear-shaped and have the same arrangement of parts as the second kind; *i. e.*, a uniformly wide border surrounding an internal capsule which encloses a large cavity containing a number of round or oval cells. There is the same reticulation of the cell-body, but at the small end there is a protrusion of numerous delicate parallel fibers which appear to be continuous with the mesh-work of the body of the cell. The cells within the capsule are surrounded by an ordinary wall instead of the dotted membrane described above. The staining reactions are precisely the same as in the round cells; unlike, these however, they were never found in pairs, but always single. They resemble in a striking degree the epithelial cells containing coccidia found in the bile ducts of rabbits suffering from psorospermosis of the liver.

While the usual situation of these large, round and pear-shaped structures is in the midst of the other cellular elements, occasionally they are seen lying in the cavity of the vesicle. In many instances some of the small bodies have fallen out of the capsule and are lying free. Pfeiffer found that these, when examined in the fresh and living condition, exhibited amœboid movements which continued for some time, a fact to which we shall refer again.

The lesions in which these protozoa-like structures were observed

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were obtained from two cases of idiopathic dorso-pectoral zoster of the ordinary type.

Some years ago I had the opportunity to study carefully a case of recurrent zoster, which had been reported elsewhere,* the chief features of which were as follows: Severe neuralgic attacks in the course of the sciatic nerve recurring at short intervals for a period of one or two years, the first attack occurring a few months after the patient had suffered a

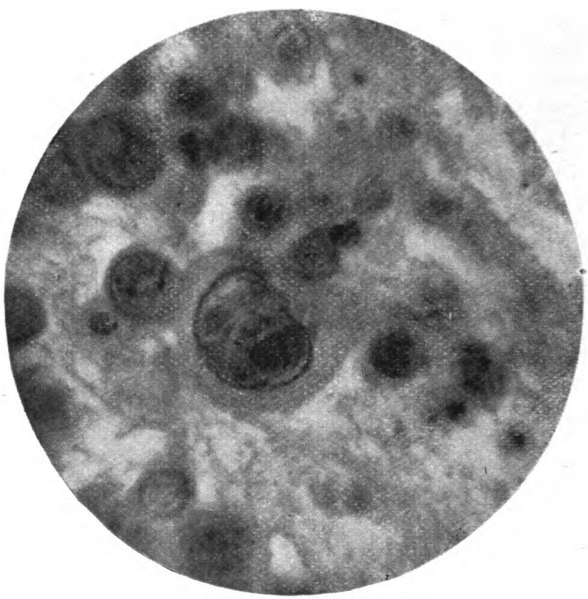

FIG. 4.
Large pear-shaped body—the internal capsule is well marked.
1/15 Homo. Im. A. oc.

compound fracture of the femur; a vesicular eruption over the sciatic nerve and its branches, differing in no respect from ordinary zoster accompanying these attacks of neuralgia after a year or two; recurrences at short intervals for ten or fifteen years. While studying the bodies which have just been described, it occurred to me that it would be of great interest to learn if similar structures were to be found in this case. Accordingly, the patient, who had long ago passed from my observation, was hunted up with the expenditure of a good deal of time and trouble, and, fortunately for my purpose, soon had one of his attacks of

* *Amer. Jour. Med. Sciences*, April, 1890.

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zoster, with a group of vesicles over the sacrum. One of these vesicles was excised and carefully examined microscopically. The alterations found were precisely the same as those in ordinary non-recurrent idiopathic zoster; there were the same large round and pear-shaped bodies already described, although they were comparatively few in number, probably because of the imperfect development of the lesion examined. All the clinical features of this case point to a traumatic origin and therefore exclude the possibility of an infection.

Since the peculiar cells which are present in the idiopathic form of zoster were likewise found here we may conclude with certainty that we have to do, not with protozoa, but with altered epithelium. And it is only fair to suppose that similar bodies present in some other diseases which are held to be psorosperms are in fact epithelial cells which have undergone a metamorphosis, the nature of which is still obscure. As is well known, hyaline degeneration has been invoked to explain these changes, but this leaves much to be accounted for. Pfeiffer, as has already been mentioned, observed active movements in these cells, a facts which argues strongly against the theory that they result from hyaline change. On the contrary, they show every evidence of being in a condition of active growth. That after they had reached a certain stage hyaline degeneration may occur is not denied; but the processes which produce their enormous growth and peculiar arrangement are certainly the result of vital activity, not of any degeneration, which must bring all growth to an end.

DISCUSSION.

DR. DUHRING: This is a question upon which I would desist from expressing a positive opinion, but I am inclined to the view that it must be looked upon as cell degeneration.

DR. WHITE suggested that Drs. Hartzell and Fordyce be appointed a committee to investigate the subject further and report at the next annual meeting.

WILLIAM THOMAS CORLETT, M. D., L. R. C. P. (Lond.), of Cleveland, Ohio, followed with a paper entitled

COLD AS AN ETIOLOGICAL FACTOR IN DISEASES OF THE SKIN (WITH A REPORT OF CASES.)

In 1874 Dr. Duhring first called attention to a cutaneous affection associated with cold which has since borne the name of prurigo hiemalis (*Philadelphia Med. Times*, January 10, 1894).

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This disease is now well recognized, and in certain localities of northern climates is of common occurrence Closely allied etiologically to this affection, yet presenting some of the clinical features of eczema, are the following cases representing a type which, so far as I am aware, has never received a special consideration aside from the cases reported by Mr. Hutchinson under the title "*Some Peculiar Eruptions Allied to Chilblains*" (Clinical Lectures, Vol. I.), and more recently *Acrodermatitis of Senility* (Archives of Surgery, January, 1894). Here the characteristic features of the eruption, as well as its association with cold, are clearly brought out. I cannot, therefore, claim priority in description. However, as I reside in a locality favorable to its development, much opportunity has been given me for repeated observation of the disease, and, I trust, has enabled me to supplement what has already been written, so that further information may be added and additional facts elicited from members of this association.

CASE I. C. E., a physician, aged 40, a native of Western Pennsylvania, of good general health, consulted me on March 3, 1883, for an eruption involving the dorsal surface of the middle, ring and little fingers, extending upward to the wrist and around the under side to the palm. The lesion was well defined with an elevated margin of a dull, reddish color and covered with thin, firmly adherent scales. The eruption at times was itchy. Upon inquiry the following history was obtained: The disease first appeared at the age of 20, during the cold weather, and disappeared the following spring. The next winter it returned, occupying the same position and presenting symptoms similar to those observed in the first attack, which, like its predecessor, left at the approach of warm weather. After this the disease returned every winter, always occupying the same site and going through a regular series of changes, which, as a medical man, the patient had noted in detail. The time of its annual invasion varied in different years, and seemed to depend on climatal influences, which were felt only when the thermometer fell to the freezing point.

The first lesions were vesicles which ruptured easily, leaving raw spots; later a few small pustules occurred, which likewise ruptured, giving rise to crusts, and finally these were replaced by scales, as when first seen by me. The patient had noticed that a sojourn to a warm climate, as in Florida, where frost is seldom seen, caused the eruption to subside. Protecting the hand by wearing a fur glove had no appreciable effect. The family history revealed two members on the maternal side affected with eczema. The patient was also under treatment for an inflammatory disturbance of the middle ear. He never had had any eruption on other parts of the body.

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CASE II. R. J., a dentist, aged 48, sought advice for half-dollar-sized patch on the dorsum of the right hand, December 9, 1884. The eruption had existed many years, appearing only during the winter months. In character it was thickened, slightly reddish, scaly, and with a well defined border. Moisture had never been a noticeable feature, and itching, although sometimes severe, was not constant. In appearance it resembled lupus erythematosus. This case was under observation several years, during which time it resisted treatment and remained unchanged.

CASE. III. M. McC., aged 26, seamstress, consulted me in the autumn of 1887 for an eruption on the back of the hands, which extended down over the dorsal and lateral surfaces of the middle and little fingers. Above it terminated abruptly at the wrist. In character it was vesicular, and at eight o'clock every evening was accompanied by a paroxysm of itching. At other times the hands were tender, and the patient was unable to ply her vocation. The disease came for the first time in December of the year preceding, but during the summer it had not been present. It was classed as a vesicular eczema. The patient had mitral insufficiency with marked dyspnoea upon active exercise or after ascending a flight of stairs. The skin of the hands and cheeks were of a dusky, erythematous and, at times, almost cyanotic tint. By way of treatment, she was directed to remain quiet. Tonics, with the view of strengthening the heart's action, were given, and various topical applications were followed in succession, but the eruption did not subside until the following May. It remained away until the autumn of 1891, at which time an ointment composed of ichthyol six per cent., ammoniated mercury fifteen per cent. and lanolin one hundred per cent., received the credit of curing the attack. On February 23, 1894, the patient again presented herself, but the character of the eruption had changed. Vesicles no longer present, and well defined, scaly lesions, with an elevated margin, covered the dorsal aspect of each hand. The case is still under observation.

CASE IV. J. P. N., a police officer, aged 53, sought advice for an eruption on the back of the hands, October 13, 1890, which had appeared every winter for twenty years. During the past few years, the patient informed me, it had assumed a dry, scaly aspect, which, during the summer preceding, had not entirely disappeared. The disease was accompanied by paroxysms of severe itching, which he attributed to change of weather. The patient was benefited by local treatment, but before the following winter he died of pneumonia.

CASE V. G. F. E., aged 45, manufacturer, of sedentary habits and a generous liver, first came under treatment January 26, 1891. At that time the patient had what seemed to be an ordinary eczema of the dorsal

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surface of the hands. The eruption extended upward above the wrists. It was thought the patient's mode of living had an etiological bearing on the case. He, therefore, was put on a limited dietary and wines and liquors prohibited. Internally he was given small doses of calomel, which was followed by an aperient water. Locally a fifty per cent. lotion of glycerole of tannin was used, which, as the inflammation subsided, was replaced by the compound menthol ointment. Under this the eruption improved, but did not completely disappear until warm weather set in. Although the patient said he had had previous attacks, yet its association with cold did not occur to me until the following winter, when he again presented himself with a full return of the old malady. At this time he was advised to pass the winter in Florida, which he did, and the eruption began to disappear after crossing Mason and Dixon's Line and a milder climate was reached. This winter (1893-4) there has been a tendency for the disease to return, but by anointing the hands with vaseline, after bathing, the eruption has been held at bay.

℞ Menthol,		
Acidi carbolici,		
Sodæ benzoati, ...	ãã	ʒ ss.
Zinci oxidi		ʒ i.
Ol. amygdalae dulc.		℥ i.
Cerat. simp. adde.		℥ iiss. Misce.

Case VI. E. E. S., hardware merchant, aged 46, was seen January 28, 1891. The patient complained of a recurrent disease on the back of the hands, consisting of erythematous, slightly scaly eruption situated upon a thickened base with well defined margins and of symmetrical distribution; the history of which he related as follows: During the American War of the Rebellion the patient was confined in Libby Prison. Upon his release he had a severe attack of furunculosis, which, the following winter, gave place to the present affection; from this he had suffered every winter since. Although it was relieved and somewhat modified by treatment, it still shows a yearly tendency to return.

Case VII. Miss A. W., aged 22, was seen in consultation March 13, 1891, for a vesicular, circumscribed eruption on the dorsum of hands. There was also a similar spot on the dorsum of one foot. The eruption was peculiar in that the base of the vesicles were of a dark or raw-ham color, accompanied by much smarting and sometimes pain. The patient said at mid-winter, when the eruption was most severe, there was sometimes noticed shooting pains from the shoulder to the hand. This was the first attack and the patient has since passed out of sight.

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CASE VIII. F. M. B., aged 26, a clerk, consulted me August 26, 1891, for a condition of the skin which he said became manifest yearly at the first approach of frost. The disease appeared for the first time during childhood while the patient was spending the winter in Canada. At the time of my observation the skin appeared in a normal condition and the patient's general health was good. He had never suffered from chilblains and the disease had appeared only on the back of the hands. He sought advice, hoping thereby to avert a return of the malady. He was directed to anoint the hands after washing and to protect them with leather gloves. He was seen once or twice during the autumn; the skin remained normal. I have not heard of the case since.

CASE IX. J. N., aged 50, retired merchant, consulted me January 5, 1893, for an eruption of the extensor surface of the fingers. The dis-

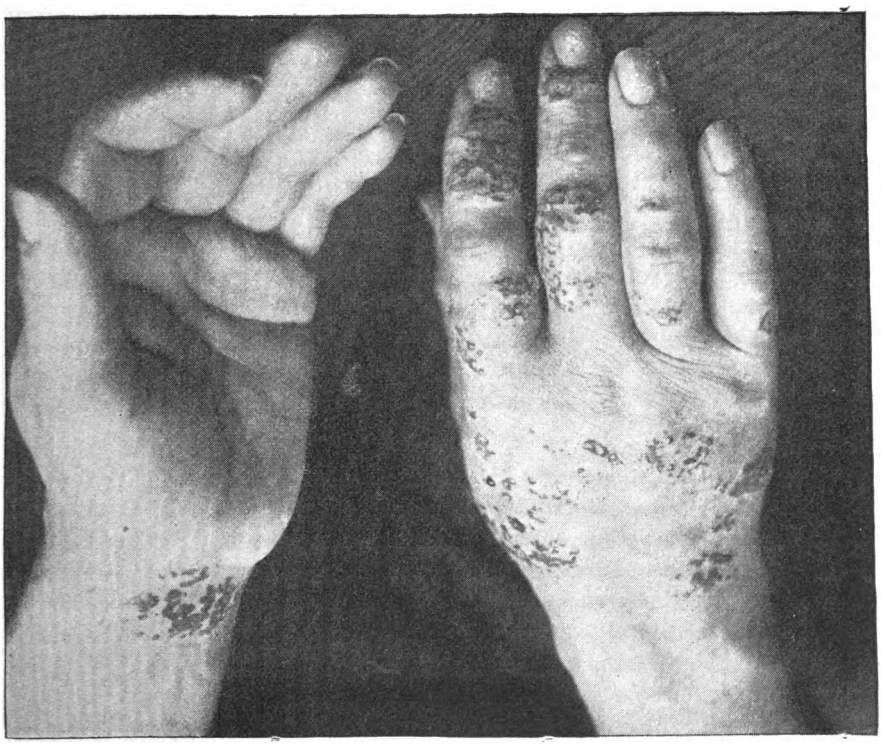

FIG. 1.

ease had appeared in much the same form for several years, always showing itself during early winter and disappearing the following spring.

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His general health was good and his habit robust. No cause could be assigned for the condition aside from the influence of cold.

CASE X. J. S., aged 47, a railroad conductor, was referred to me by a colleague, January 17, 1893. The patient, who is the subject of the accompanying plate, was in good general health and had never had syphilis, rheumatism or chilblains. Four years previously he had had an eruption due to wearing new flannels. The present disease began October 28, 1892, in the form of a circumscribed spot about the size of a half-dollar, which came on the left wrist. The eruption was characterized bp a roundish, or horse-shoe-shaped, slightly elevated patch containing lentil-sized vesicles which soon ruptured, leaving denuded, dark red or raw ham-colored surfaces, which in its evolution, and taken as a group bore a striking resemblance to a herpetic lesion. Unlike herpes, however, there was little pain, and unlike eczema, itching was not complained of. Soon new lesions appeared on the back of the hands, attaining dimensions varying from a dime to a half-dollar, extending down the dorsal and lateral surfaces of the fingers. The treatment adopted was wholly local, a fifty-per-cent.-lotion of the glycerole of tannin was applied by means of strips of cotton saturated with the mixture. In healing, the centre of the patch first subsided giving rise to a bluish surface, and leaving a ringed or semi-circular margin. New outbreaks occurred from time to time during the winter, in which the treatment was somewhat varied, including the internal ingestion of arsenic, potassium iodide and mercury, as well as various topical remedies. It was not until the fifth of May, however, that the hands were entirely free and the patient was able to resume his vocation. During the past winter the attack has been less severe and by early attention and repeated anointing it has been held in check.

CASE XI. J. R., aged 33, bank clerk, was first seen February 24, 1893. The patient sought relief for an eruption on the back of the hands extending forward to the dorsal and lateral aspects of the fingers, as well as the corresponding positions on the feet. It presented variously sized, weeping surfaces which involved nearly the entire back of the hands, less extensively distributed on the feet. The eruption appeared for the first time in the winter of 1881, the patient at the time was living at Bordeaux. It disappeared the spring succeeding, but returned the following winter. Whereupon the patient left France, returning to his former home in Germany, where he did not have a recurrence of the disease. In 1884, he came to America, and ten days after his arrival in Cleveland the eruption broke out, since which time it has continued to harass the patient during the months of winter. By way of treatment

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he was advised to remain within doors with soothing and a stringent application to the parts affected, but before the eruption subsided he was compelled to resume his clerical duties, and not until the seventeenth of May, was he completely free. In the autumn of the same year (November 16, 1893), he again presented himself with one or two small vesicular lesions on the dorsum of the right hand. It has not, however, during the past winter assumed a severe form.

CASE XII. F. L. I., single, aged 41, a locomotive engineer, was seen December 4, 1893. He complained of an itchy, at times watery eruption on the back of the hands and wrists, which he said appeared every winter and disappeared with the advent of spring. This it has done for nine years. There was in addition a typical eczematous eruption on the flexor surface of the elbow joints, as well as on the nape of the neck. This latter, differed in clinical appearance, healed kindly under treatment, and did not show any tendency to return. The patient attributed the disease to an accident, which occurred on February 3, 1883. At which time his engine was precipitated into an excavation ; his feet caught in the wreck where he was held under water, excepting his head, from 2 A. M. until 10 A. M. He retained consciousness only half an hour after the accident. Although not mangled in any way he was unable to resume his vocation for four months. A fortnight after the accident the skin of the whole surface of the body peeled off ; on the palms and soles it was exfoliated in large plaques. One year from the first autumn following the injury the present disease appeared. Previous to this there had been no history of any skin disease in the family. He had never had any venereal disease. When the photograph was taken the eruption was dry and scaly, a fortnight later it was aggravated with a profuse watery exudation and more itching. The case is still under treatment.

CASE XIII. J. B. H., aged 28, machinist, presented himself February 25, 1894, with a dollar-sized eruption on the extensor surface of the hands and forearms. The case was most opportune as it enabled me to show the disease in its most typical form. The eruption stood out in bold relief and presented the dusky-red, at times bluish or purplish hue according to the position of the hands and the temperature of the room. This feature the artist complained of in selecting the proper color. To better illustrate this the spot (*a*) was cleared of scales by washing, and (*b*) was taken after the arm had remained some time in the same position in a moderately cool room. The history too, was of interest, in that the disease first appeared in a mild form eight years before while he was residing at Los Angeles, in southern California. He said it looked like a

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ring-worm. There occurred at that time an unusually cold storm which was accompanied by high wind from the north and some snow. The eruption left soon after the weather moderated. The following summer

FIG. 2.

he moved to Cleveland where, in November, the disease again appeared and in the same position, between the metacarpal bones of the index finger and thumb. It disappeared the April following. Until last winter the eruption has been confined to the right hand; it, however, at that time broke out on the left hand, as herein shown. Preceding its appearance the skin was very itchy, subsequently itching was complained of only during the evening. On the left side, the part last invaded, the spots were more watery and of a brighter color than on the right. The

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lesion (b), which is the oldest, being a continuation of the original spot, is especially purplish in tint and is more scaly. He has never had an eruption on other parts of the body, neither has he had syphilis, chilblains or any other infirmity.

CASE XIV. E. M., actress, aged 28, was referred to me for an eruption on the back of the hands and forearms. The disease came early in the spring of 1893, she at the time was living in Buffalo, New York. It was of short duration, but it again appeared the following December while she was filling an engagement at Cincinnati, Ohio. When the case came under observation March 1, 1894, it was immediately recognized as belonging to the type herein described. The main lesion consisted of a dollar-sized, thickened patch on the dorsum of the right hand. It was of a faded-rose color, slightly scaly and stood out prominently with an elevated margin. Several smaller spots were scattered over the forearms on both the flexor and extensor surfaces. These latter were of a reddish color, less scaly and had but recently appeared.

The patient came of an eczematous maternal ancestry, but had always enjoyed good health. Her peripheral circulation seemed in a normal condition, although she complained of excessive perspiration of the hands. She had never been afflicted with chilblains. The finger nails were brittle. She is still under observation.

During the past winter the weather has been unusually mild. But two northwestern storms have occurred, the first in December, when case ten presented himself. The United States Weather Bureau has kindly furnished me with the following Meteorological Report for Cleveland:

METEOROLOGICAL REPORT.

		Mean Bar.	Mean Temp.	Mean Humidity.	Precipitation.
Dec.	1,	30.20	22	82	.27
"	2,	30.22	16	100	.04
"	3,	29.82	28	84	.66
"					
"	17,	29.92	26	82	.21
"	18,	29.78	28	80	.14
"	19,	30.01	26	78	.24

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Direction of wind.	Wind velocity.	Cloudiness.
N. W. to S. W.	brisk to high	10
E. to S.	light to fresh	8
N. E. to N. W.	fresh to brisk	10
S. W. to N. W.	fresh to brisk	10
S. E. to S. W.	brisk to high	9
S. W. to N. W.	high	10

Maximum Temp.	Minimum Temp.	Prevailing state of weather.
24	19	Cloudy.
23	9	"
34	21	"
38	24	"
38	18	"
27	24	"

The second storm occurred February 13, 14 and 15, when two additional cases, not included in this report, applied for relief.

	Mean Bar.	Mean Temp.	Mean Humidity.	Precipitation.
Feb'y 13,	30.12	20	88	.34
" 14,	30.18	19	92	Trace.
" 15,	29.90	21	92	.22

Direction of wind.	Total wind movement.	Cloudiness.
N. W.	299 miles.	10
S. E.	172 "	7
N. W.	528 "	10

Maximum Temp.	Minimum Temp.	Prevailing state of weather.
22	17	Cloudy.
26	31	Partly Cloudy.
24	18	Cloudy.

In this we recognize that three conditions are necessary for its production, viz., a low temperature, air in motion and humidity. Again there is noted a preponderance of the male sex who are more exposed to inclement weather. No trade or social condition had any noticeable influence. Neither was chilblains or lupus erythematosus met with in the cases reported.

Prominent among the morbid changes in the skin was the dusky, almost cyanotic appearance of the lesions, which changed in tint accord-

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ing as the position of the hand was raised or dependent. They were also influenced by the temperature of the room. In case III, there was a marked disturbance of the peripheral circulation, as pointed out by Mr. Hutchinson, but aside from this case no such disturbance was apparent. In the treatment of the disease local measures afforded the most relief. These included emollients, soothing applications and astringents as were indicated in its different stages. Protecting the surface, although not always effectual, is to be recommended. Failing in these we still possess one panacea—a change of climate.

In conclusion, the cases herein briefly reported present a well defined type, possessing the following distinctive features:

1. Sudden appearance at the approach of cold weather.

2. Spontaneous cure in the spring.

3. Liability to return in successive years, occupying the sites previously involved.

4. Its characteristic position is the dorsal surface of the hands, next in frequency the corresponding position on the feet.

5. The disease shows little or no tendency to spread to other parts of the body, nor, after the lesions are fully developed, to extend at the periphery.

6. The eruption is characterized by variously sized, round, or, as involution proceeds, horse-shoe-shaped patches, which are slightly, sometimes markedly thickened, having an abrupt, well-defined margin and of a dusky red or slightly erythematous color. At first vesicles are present, which easily rupture, leaving denuded, weeping, irregular, pin-head to lentil-sized surfaces, whose color is perceptiby stronger than the surrounding patch and may be likened to a raw-ham tint. The disease at this time often presents a striking resemblance to herpes. Later the patch takes on a faded-rose-colored hue and becomes covered with a thin layer of adherent scales, when it might readily be mistaken for lupus erythematosus. This may mark the subsidence of an annual attack, or, after many years, the eruption may assume this form.

7. Itching may or not be present; when present it is paroxysmal.

8. Finally, as observed by the writer, the eruption is not associated with any other disease, nor has it been ascribed to any special bodily condition.

With these distinctive characters it seems to me we are justified in looking upon the affection as a disease *sui generis*, to which I would suggest the name most accurately expressive of the condition, dermatitis hiemalis.

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DISCUSSION.

DR. SHERWELL referred to the degree of resemblance of some of the cases to the conditions described by Mibelli, Brooks and others. The action of cold in those cases, too, had been urged as factors.

DR. HYDE: This paper well describes a condition that confronts us at certain seasons of the year. The influence of cold atmosphere upon cutaneous disorders is more apparent when the first severe changes of the autumn come on than at any other time of the year. In some of these hand cases, however, particularly where no lesions appear upon the feet, there are many factors which are responsible for the result, not one merely. I am growing more and more suspicious of these hand diseases where the lesions are limited to exposed portions of the body, as in the case of mechanics who work with their sleeves rolled up. The cold is often effective, producing at first some eruption. I have noticed that the subjects of the disorder are chiefly men, and that the local infection is of the mixed type, which Walter Smith recognizes under the term eczema marginatum, especially when there are well-defined patches on the surface of the hand. In the pictures exhibited by Dr. Corlett, it is seen that the right hand has been that more affected. This may be due to peculiarities of photographing, but for the most part the lesions appear to be decidedly predominant on the right hand. That is significant, provided that patients are all right-handed. The trades and occupations do influence these cases to a marked extent. The dressing of the hands in winter also has an influence, particularly the wearing of fur gloves. As Smith has shown, the fur glove is very apt to furnish a nest for germs of this disease; just as the collar of an overcoat may produce furuncular lesions upon the back of the neck.

I would sum up what I have to say on this subject by suggesting (1) that one must be very careful in eliminating all sources of the disease before referring it solely to the action of cold weather, and (2) though these disorders greatly resemble each other they are not all of the same character and due to the same cause.

DR. WHITE: If I were asked to make a diagnosis from these illustrations, I should call them eczema, more or less qualifying the term. They are not, however, in my opinion, the most characteristic types of inflammation of the skin produced by cold. I believe that such cases are seen at all seasons of the year, although, perhaps, in some instances, they are aggravated by cold. The type of diseases which I regard as those in which cold is the most important etiological factor is more generalized in its distribution and presents a greater variety of lesions, chiefly eczematous.

DR. CORLETT stated, that after reading Dr. Hyde's book, he had noted the author's observation concerning the distribution of eczema of the hands, but so far as he had been able to ascertain in the cases reported, the right hand was not more frequently affected than the left and vice versa in left-handed people. He further said it was not his desire to add to the already long list of skin diseases, but to record a clinical fact, which, if confirmed by other members of the association, whose locations enable them to study the effect on the skin of the climatal conditions he had endeavored to point out, he thought some distinctive name should be appled to it.

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DR. CHARLES W. ALLEN, of New York, read the next paper on

ACQUIRED IDIOSYNCRASY FOR QUININE, SHOWING PECULIAR CUTANEOUS MANIFESTATIONS.

The skin eruptions which follow the use of cinchona barks and their derivatives possess a double importance from the wide-spread employment of these drugs and their consequent liability to occasion frequent rashes, and the fact that although the literature for the past ten years at least is not lacking in reports of cases, many of them show that the drug has been persisted in for some time after the skin manifestations have appeared, through ignorance of their nature and cause, or else that it has been administered for a second time, and then only when the same eruption showed itself again has its origin been suspected.

It is for this reason that I venture to consume a little of our time in the report of a case possessing, it seems to me, some features of interest, and I hope the discussion will aid in the elucidation of some points, which we must admit are unsettled, concerning the action of the drug in producing those phenomena with which we are familiar.

All of us have seen instances of pruritus due to quinine in which no exanthem shows upon the surface. I can recall a number of cases in which this tendency manifested itself in more than one member of a family; thus a father and daughter, a mother and son will have the same peculiarity, and I have repeatedly had patients tell me they could not take quinine, nor could one or the other parent before them.

The most freqnent form of eruption resulting from quinism is probably the scarlatinoid, an erythematous rash beginning, usually, upon the face and subsequently extending over the whole surface. Other usual forms are the urticarial and papular, while the vesicular, bulbous and purpuric are less frequently encountered; last of all come the gangrenous forms. Dr. Van Harlingen, in his interesting and instructive paper on Medicinal Eruptions, read before this association in 1880, says that in exceptional cases, the eruption may not become generalized, and Dr. Morrow uses the same words in his well known monograph, in which is incorporated a paper written by himself also in 1880, both agreeing that the erythematous is the prevailing type of eruption. Dr. Morrow found thirty-eight out of the sixty cases analysed to belong to this variety.

The case I now report differs from the majority of those found in literature. (1.) In that the eruptions occurred in a subject who had previously always been capable of taking quinine in moderately large dose (gr. v. to gr. xv.) and had never before suffered in any way from its use. (Dr. Morrow refers to this acquired idiosyncrasy in a case of

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his own.) (2.) In that the eruption is developed by a smaller quantity of the drug than I have been able to find recorded in any other previous observation. (3.) In that the lesions are local and show no tendency to spread or to become generalized. (4.) In that the location of individual spots is always the same, no matter what the dose. (5.) In that the eruption was produced four times accidentally and fourteen times experimentally. And finally (6), in the fact that, varying with the dose and possibly with other unknown conditions, the lesion, which is always primarily and usually solely erythematous, may become urticarial, oedematous, bullous, covered over with small vesicles or converted into an excoriated patch. In other words, the simple rosy erythema of one attack may closely simulate in another, an *erythema exudativum multiforme.* The amount of irritation in one case being, it would seem, sufficient to produce only a dilation of the vessels and redness of the skin, while in another an exudation takes place which may either show itself as an oedema or, if fluid is poured out between the corium and epidermis, the latter may be raised into a bullous sac or numerous small vesicles may spring up to stud the surface. A greater intensity of action, or the same degree exerted upon delicate parts, such as the prepuce in this instance, may cause rapid shedding of the epidemic layer and leave exposed a tender, excoriated and bleeding area.

In 1889 the subject of this sketch, while suffering from toothache, took a five grain dose of the sulphate of quinine at bedtime. During the night there was decided general pruritus, and in the morning large round erythematous blotches were found upon the backs of the hands, inner surface of the thighs above the knees, dorsum of the foot, glans penis and prepuce, as shown in the drawing. With the exception of a blotch upon either side of the spinal column opposite the third or fourth dorsal vertebræ, the size of a fifty and a twenty-five cent piece respectively, these were the only regions in which spots appeared in this or any subsequent attack. Having suffered from urticaria on two previous occasions from eating clams, the idea of this eruption being of the same nature was suggested to the man's mind and not suspecting the drug which he had often taken before in larger quantities, the dose was repeated. The symptoms became more pronounced and by the next morning when I saw the eruption the prepuce presented two large oval excoriated surfaces which became in a few days so suggestive of large chanchroids that a colleague to whom they were shown suspected at first that this was really their nature.

The rest of the region of the glans and prepuce was intensely red and sensitive. From the history (for I had never before seen just such an eruption from the drug) I made the diagnosis exanthem due to quinine,

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and ordered its use discontinued. In about a week the spots began to desquamate and continued to fade in color while peeling for about ten days longer.

On July 2, 1890, again suffering from neuralgic pain in the teeth patient took one "Mousette" pill, not knowing or not remembering that it contained quinine (about one grain). Within twelve hours itching, burning and prickling sensations began and the same spots as in the first instance showed themselves. Two days later the whole prepuce was excoriated as after a blister and there were digestive disturbances. On the 6th the skin over the first phalanx of the little finger on the right hand was tender and looked like a burn. On the 9th the glans penis would bleed when irritated while the prepuce was in a healing condition. By the 12th desquamation was progressing in the various blotches. Again, in this same year a cordial glassful of "Bougeaud" coca wine was taken and the same condition followed, though in a less pronounced way. The quantity of the drug must in this instance have been exceeding small.

On August 18th, 1891, patient took in a drug store a little Elixir of Calisaya with vichy, the equivalent of quinine not exceeding $\frac{1}{3}$ grain. Half an hour later well recognized tinglings brought a realizing sense of the inadvertence. Within a few hours the spots had appeared and the glans penis was encircled as by a ring of redness. There was no elevation of temperature. Two days later there was a bulla upon the little finger raised one-quarter of an inch above the niveau. Over some of the other spots were scattered vesicles and some spots showed enclosed rings resembling erythema iris. The bulla was pricked, and the serum allowed to flow off. The wall dried down into a waxed-paper-like scale. The skin beneath this was tender and desquamation was repeated several times before the redness disappeared. Glans penis and prepuce became denuded of epithelium, and glans desquamated after healing had taken place.

Thus it is seen that four times an eruption very similar in kind and degree followed the ingestion of quinine in varying quantity. Three times it may be said to have been accidentally taken, after the first had demonstrated the idiosyncrasy. In order, if possible, to clear up some of the things which are still unsettled concerning quinine eruptions I now undertook a series of experiments with the co-operation of so favorable, and, as he proved, willing a subject.

The statement has been made and repeated that it is the acid and not the base which is the offending substance in these cases, and that the individual who breaks out after the sulphate can take the citrate, for example, with impunity.

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To determine this point, at least so far as this case was concerned, and at the same time to test the efficiency of the tannate of quinine which has been accused of being an inert preparation, I gave one chocolate tablet containing one grain of tannate, such as are prepared for children.

In exactly two hours a decided pruritus tingling and burning began to be felt in the region of the prepuce. This was found on inspection to be of a bright scarlet, as was also the glans penis. Stinging points were noted in the habitual regions, especially in the inter-scapular area. Scarlet blotches followed shortly in all of the usual situations. During the following day some of the hyperæmic patches became noticeably raised above the surface and somewhat œdematous, pitting upon pressure, while others were tender to the touch and, as noted before, felt and looked like burned spots.

Allowing abundant time for the full effect of each exhibition of the drug to wear off, I tried in succession the hydrobromate or bromide of quinine in dose of one-quarter of a grain; the hydrochlorate, the bisulphate, dextro-quinine and the bimuriate with urea (a soluble product for hypodermic use, going under the name of quinine carbamide), all in the same dose. These were invariably followed by the same manifestations I have described, and when taken in connection with the recorded instances of eruption from the various preparations, including the citrate, I believe the claim of Giampetro and others, that the acid and not the base is at fault, cannot stand.

Our next attempt was to find out whether the drug might not, by circulating through the lymphatics, be brought into contact with certain nerves of the skin, or terminal nerve filaments, and produce in them a local effect. To test this, a tight band of adhesive plaster was bound about the wrist of the right hand, so as to make decided pressure, and a dose of hydrochlorate of quinine was administered by the mouth. Despite this constriction kept up for the whole of an afternoon, the spots appeared upon both hands as usual and a little earlier, if anything, upon the right than upon the left. This experiment was repeated a month later by applying the constriction to the forearm and, after the hand was cyanotic, injecting into the skin and subcutaneous tissues between the hand and the band one-quarter grain of the carbamide in solution. The effect of this was to produce after ten minutes an anæsthetic area the size of a fifty-cent piece, with slight and transient œdema, leaving behind an infiltrated condition of the skin, with numbness of the whole back of the hand. For two days the site of injection was tender and the arm had a slightly lame feeling, but no erythema or eruptive signs of any kind appeared at the site of injection.

The injection was made at noon and at 12.20 the itching began to be

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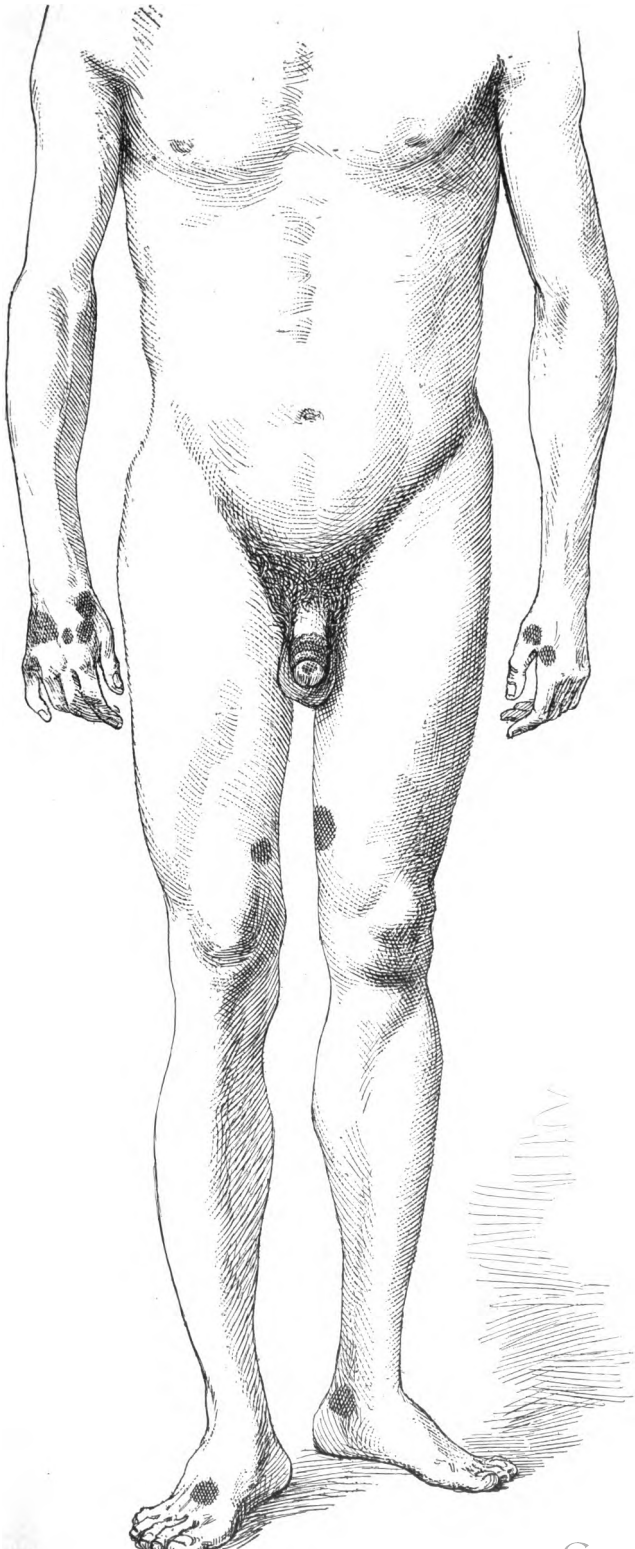

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felt in the prepuce. At 12.45 there was a slight earache, a symptom noticed once or twice shortly after a dose had been taken. At 5 P. M. the erythema began to appear on the prepuce and right hand, and at 8 P. M. on the left, followed by spots in the other usual locations.

On another occasion gr. $\frac{1}{160}$ of the hydrochlorate was injected into the skin of the right arm and an equal quantity into the hand at the site of one of the erythematous blotches, but aside from what might be expected of the same amount of water there was no effect.

I therefore came to the conclusion from these trials that the drug was incapable of acting in a local way and that its action could not be confined to a given region or prevented from entering this region by mechanical compression of the superficial vessels and lymphatics. They also showed that the theory of reflex dilatation of the vessels in the skin from stimulation of the sensory nerves of the stomach was not applicable here unless we presume that enough of the drug is carried by the circulation to the mucous membranes when injected beneath or into the skin. But why should we presume that there would be primary irritation of the stomach nerves, if we are unable to produce this effect upon the skin nerves?

To test the effect upon mucous surfaces one-quarter grain of the carbamide in solution was held by the patient in his mouth for fifteen minutes. No local effect of any kind was noted and no general effect for six hours, when erythematous spots appeared in their old locations near the left knee, on the dorsum of the left foot and upon the right little finger. These spots faded after two days and no others appeared. After some days the same quantity of the same preparation was made into a suppository with cocoa butter, and introduced just within the sphincter ani, where it was allowed to melt. No local effects whatever, but the general symptoms followed in quite a pronounced way after five hours and the spots did not entirely fade for two weeks. If we consider the effects in these instances as reflexes from irritation of the digestive tract should we not expect a rather quicker result than when we inject the drug into the skin? Such was, however, not found to be the case. To test the possibility of local effect from inunction I had prepared an ointment containing two grains of the hydrochlorate in a small quantity of lanoline and lard. This was rubbed into the back of the patient's right hand for fifteen or twenty minutes. No local effect was appreciable, but about six hours later a distinct erythema of the corona glandis and prepuce appeared with the attending pruritus, and lasted twenty-four hours. There was also irritability about the neck of the bladder, with frequnt calls to

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urinate, and two days later a herpes preputialis developed, causing further trials to be postponed. The herpes was not looked upon as a direct effect of the quinine, but it was thought that it might be indirectly referred to it through the bladder symptoms. Patient stated that in former years he had been troubled with frequent attacks of herpes, but for six or eight years did not remember to have had it.

Although I am quite well aware that quinine in susceptible subjects often causes vesical irritation, I did not lay great stress upon this instance, from the fact that this patient had often suffered in a similar way when he "catches cold," and when no quinine has been taken, and, on the other hand, in most of the eruptive attacks the bladder function had not been interfered with. Some time after the herpes had healed, four grains of the muriate in ointment was again rubbed into the hands for twenty minutes at bedtime. In the early morning there was thickening of the skin of the prepuce, redness extending over the whole glands, irritability of the bladder and frequent urination, continuing for thirty-six to forty-eight hours, slight sciatica-like pains in the right leg. The effect upon the hands was slight, the little finger being more affected than other parts, desquamation taking place several times in succession. There was no evidence that any local action had resulted from the inunction. I now became convinced that the vesical irritability did proceed from the quinine absorbed by the skin. Cases in literature show that this effect is recognized, and that hæmaturia even may be occasioned, just as it may be cured by quinine. This may be homœopathic in principle, but the dose necessary for this result is usually far from being one of homœopathic proportions. Still, with the view of testing skin absorption, I had the man apply to the scalp, with moderate friction, a drachm of an alcoholic solution containing one grain of quinine. Twelve hours later there was erythema of the glands and upper surface of the prepuce, with decided tingling and burning, but no local change on scalp which could be charged to the drug. Subsequent daily applications of half this quantity did not seem to increase the intensity of the original effect.

This completes my observations in the case; but I have purposely omitted till now the mention of a symptom to which I am inclined to attribute some importance in determining the manner in which quinine may act in the production of cutaneous eruptions.

In the first and second attacks—in that brought on by the hydrobromate three years later, and in the last outbreak after rectal administration of the drug—complaint was made of a dull ache in the interscapular region. This was more pronounced in the early attacks. Examination on repeated occasions showed the undoubted existence of

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marked tenderness on pressure over the spinous process of the second dorsal vertebra. This tenderness would disappear as the eruption faded, and was never to be found in the intervals of quinine eruption.

Now, upon this symptom, indefinite as it may be, I pivot my proposition—or may I say, better, supposition—that the eruption is due neither to a pathological reflex direct from the digestive tract, nor to a direct effect upon the peripheral nerves, nor to the irritation produced locally upon the skin in the process of elimination of the drug by the glands, nor to its action as a protoplasmic poison upon the capillary vessels; but, on the contrary, to an angeio-paralysis of central spinal origin. Whether the drug undergoes chemical change before it is capable of producing these effects I am unable to say, but from the rapid onset of pruritus I would argue that it acted in its unchanged state.

It is well known that quinine is eliminated by the sweat glands as well as by the kidneys; but the constant symmetrical distribution and circumscribed features of the eruption in this case, it seems to me, are much more rationally explained on the theory of nerve origin.

Again, in support of this we have an effect prolonged much beyond what one would expect from the irritation due to elimination. We know that quinine can be detected in the urine within ten minutes of its hypodermic injection, and that it may be found here for several days; but, presuming the elimination by way of the skin to be likewise protracted, it would scarcely account for instances in which an active stage of eruption, or apparent exacerbations, continue for several weeks after the drug is withdrawn. If we invoke the direct local action of the drug upon the bladder-wall, for instance, to account for vesical irritation, we must presume that the drug has undergone some change in the system, since simple contact with mucous membranes will not, as I have shown, produce irritation or local effect.

I cannot agree with Bouvard that skin elimination explains all the eruptions, as he claims, excepting that of pupura, which may have its source in the action of the drug upon the blood and tissues.

That hyperæmia of certain regions follows a moderately full dose is shown, for example, by observing the ear drum, or the fundus of the eye, the fullness of the vessels indicating a corresponding intra-cranial effect. That the circulation is quickened is shown by the exhilaration often secured by a comparatively small dose.

Thus, I have as a patient a reverend gentleman who is in the habit of taking two or three grains of quinine upon starting for church. The beautiful choice of words and eloquence of the sermon make the ears of his hearers fairly tingle, and not one of his congregation dreams that their *tinitus* is produced by the the preacher's cinchonized words.

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Full doses, too, as is well known, will cause dilatation of the pupil similar to that from belladonna.

These effects may all originate in the nerve irritation.

In large doses, Chaperon says, the reflex function of the cord is lessened and ultimately abolished, and Wood has pointed out that convulsive attacksmay follow.

If large doses can produce such marked results by acting upon the cord, why is it not rational to refer these skin changes to the same source.

The analogy which certain of these quinine eruptions bear to urticaria and circumscribed œdema, depending probably an innervation disturbances must not be overlooked, especially the angeio-neurotic œdema that occurs in subjects of urticaria who are distinctly neurotic, or give history of neuralgic attacks, etc. The vaso-motor disturbance here, as well as in certain quinine eruptions, is probably, first, spasmodic, and secondly, paralytic.

I would also mention the somewhat analogous conditions of symmetrical œdema and other trophic changes in the extremities in those states in which the cord is known to be the seat of pathological change—I refer to syringomyelia—Morvan's disease, Raynaud's disease, etc.

The only case I have been able to find similar to my own was reported by Dr. Munn in the Atlantic Medical and Surgical Journal in 1879. His patient always developed bright-red erythematous patches upon the left cheek, nose and chin, the palmar aspect of the left wrist, the back of the left hand over the carpo-phalangeal articulations of the fourth and fifth fingers and the left knee. In his case, however, doses ranging from five to thirty grains were required, and the eruption only developed after the drug had produced its full effect on the system. The tendency ceased after an attack of pneumonia and did not return, thus showing that the acquired idiosyncrasy may fortunately be lost again.

I do not wish to enter into the matter of treatment, excepting to draw attention to what might be a misleading statement under this head in Morrow's "Drug Eruptions." The author says: "Treatment is hardly ever necessary for the cutaneous disorders caused by quinine since they spontaneously disappear on withdrawal of the offending agent."

This might lead to the supposition that the rash would be gone the day after the quinine was stopped, whereas several weeks may elapse before the activity of the eruption, and puritius, have ceased entirely. Indeed, the eruption may not even appear until after the drug has been withdrawn for some time.

I have also been unable to verify the statement that women are more susceptible than men to quinine eruptions. My personal experience has

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led to the opinion that sex plays no part in their production and that the cases are about equally distributed.

If there is anything in this theory of spinal irritation it may have an importance, not only as bearing upon the etiology of certain obscure skin affections, but also as offering a possible explanation of the way quinine acts in producing some of its therapeutic effects.

Discussion.

Dr. Hyde: My experience is not large in these cases, but in the one case which is prominent before my mind, the symptoms were much more extensive than those shown in the sketch which had been passed around. In that case the spots appeared over the whole surface of the body after the ingestion of two grains of quinine. I would ask the reader if he has had an opportunity to exhibit to his patient a harmless remedy, such as a bread pill, the patient supposing he is taking quinine, in order to eliminate the possibilities of "hypnotic suggestion." A case which exhibits what may be the reverse of this has been lately recorded by me. A young man applied to me with the representation that he was a subject susceptible to quinine, and offered to show the eruption to the class at the college. He took the alkaloid, but there was no eruption as a consequence. He had lost his susceptibility.

Dr. Grindon: In my experience I have oftenest seen the uticarial, and not the erythematous type, and I have noticed frequently a family susceptibility. I am acquainted with a family who all possess the susceptibility, and all manifest the uticarial type of eruption; it constantly reappears at the same spot, behind the ears, and on the sides of the neck.

Dr. White: I applied once as a wash to the scalp a solution of ten grains of quinia in eight ounces of alcohol. One application of this was made, and on the following day I saw the patient; she was covered with an erythematous eruption, like scarlatina. She told me that she had been poisoned twice before by taking quinine, and there was a universal manifestation over the body.

Dr. Stelwagon: A case came under my notice a few months ago in which a tenth of a grain of cinchonida, the does being repeated three times, produced an eruption resembling eczema.. The family physician, who gave the drug, had been cautioned against it, but prescribed unintentionally a compound pill containing this drug; the patient did not know he was taking it. This gentleman had had several attacks before. In this instance, therefore, mental impression could have had no influence. The effect did not disappear immediately after the drug was withdrawn, in fact not till after three to six weeks.

Dr. Allen stated in conclusion that, as far as suggestion is concerned, when the man took the coca wine he did not know that there was any quinine in it; he only thought of it afterwards. If the element of suggestion has anything to do with it, it would seem that the effect ought to be produced when the drug is taken with the object of intentionally producing an eruption, as in the case referred to by Dr. Hyde, which failed of its purpose.

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EDWARD BENNET BRONSON, M. D., of New York, read the following paper on

A CASE OF SYMMETRICAL CUTANEOUS ATROPHY OF THE EXTREMITIES.

MR. PRESIDENT AND GENTLEMEN:

The case which I am about to report, while not a unique one, is, nevertheless, such a rare form of atrophy of the skin that it has seemed to me not unworthy of engaging your attention. The patient exhibiting the peculiar affection was sent to me at the Polyclinic by Dr. F. P. Griswold, of Meriden, Conn., about the middle of last October. I was then only able to make a few notes and secure some indifferent photographs before the patient returned to his home. A second visit was paid me, at my request, about one month ago. At this time I could not see that any change had taken place in the appearance of the disease during the six months' interval. Apparently the case had remained quite stationary. In the presence of the patient on this occasion two of the photographs taken previously were colored. I regret that my opportunities for studying the case have been so meagre. Such notes as I was able to make are as follows:

The patient is a man forty-five years of age, native of Germany, by occupation a varnisher in brass and iron works. His appearance is that of a well-developed, well-nourished person, and his manner indicates fair intelligence. He is of spare sinewy build and of brownish complexion, with dark hair and eyes. He states that his mother died of "brain disease," and an aunt, it would seem, has some mild form of paranoia. In other respects the family history is good. The patient formerly drank rather freely, but has generally led a regular, hard-working life, is married and has three healthy children. He gives no evidence of syphilis nor of arthritic disease, and his first and only serious ailment, he states, is the skin trouble with which he is now affected. The first sign of this was noticed, fourteen years ago, in the region of the left ankle. The skin at this place seemed thinner and more sensitive, and the blue veins began to show prominently. There was also some scaling of the skin, and from time to time rather dry sores appeared over the bony prominences and were difficult to heal. Little by little similar changes began to appear higher up. A year or two later the same thing was noticed upon the right leg. These changes, it would seem, were neither preceded nor accompanied with any form of inflammation excepting such as attended the ulcers or sores, and these were of a very indolent character. Nor had there been any previous disease or injury to which the affec-

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tion could be ascribed. It was apparently spontaneous and idiopathic. In course of time the hands and arms became similarly affected, but not, the patient thinks, till about five years ago. As the disease progressed and extended higher, it has been attended with occasional pain or discomfort, which thus far has affected only the lower extremities. The chief thing complained of has been a sense of great fatigue after work and long standing. This lasts, he says, for an hour or two after his work is over and then disappears. So far it does not seem to have been sufficient to seriously interfere with or curtail his working hours, but chiefly because of the apprehension that it would come to this was he led to seek medical aid. Besides this feeling of fatigue, there have occasionally been sharp, shooting pains that would come in little shocks, especially at night, and often in the soles of the feet. There has been some itching in the vicinity of the ulcers that have developed from time to time about the ankles and anterior surfaces of the legs. No other abnomal sensations, such as a sense of constriction, tingling numbness, "pins and needles," heat or coldness, have been com-

FIG. 1.

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DR. BRONSON'S CASE OF
SYMMETRICAL CUTANEOUS ATROPHY OF THE EXTREMITIES.

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plained of. It was noticed, however, that the affected surfaces were abnormally sensitive to touch, though not particularly to changes of temperature.

Status præsens.—When the patient is stripped, a marked contrast is presented between the skin of the legs from the hips down, together with the lower two-thirds of the arms, on the one hand, and the surface of the rest of the body on the other, which latter everywhere appears perfectly normal. (See colored plate.) By comparison with the trunk the extremities appear thin, as if slightly shrunken; they are darker in color, show the courses of the veins more clearly, and are covered with multitudes of wrinkles diversified with smooth brownish or white interspaces that have a glazed appearance resembling, but for the dusky color, a crumpled sheet of waxed paper or gold-beater's skin. The wrinkling, for the most part, follows the cleavage lines of the skin. It is most marked about the extensor aspects of the knees and wrists, especially the former. About the ankles and lower part of the legs the skin is a little scaly.

The extent of the disease on the lower extremities is about the same on either side. (Fig. 1.) It begins below at a pretty sharply defined line, about an inch and a half above the soles at the side and back of the feet, and one inch back of the roots of the toes in front, whence the affection extends upward continuously, embracing the entire circumference and length of the legs; in front, to a point within two or three inches of the flexure of the thigh; at the sides is bounded by a line that curves over the trochanter, and behind reaches above the nates and halfway up the surface of the sacrum. The cleft of the nates, the perinæum and genitals remain unaffected. The line of definition above is not very clear, though there is a marked contrast between the normal, white, velvety skin above and the reddish, purplish brown, wrinkled, dry and parchment-like surfaces below.

Upon the upper extremities the skin is affected from the base of the fingers (which latter are not affected) posteriorly and the palms anteriorly to an oblique line encircling the arm a little above the elbow. Its highest point, which on both sides is at the back of the arm, is near the junction of the lower and middle thirds, and is a trifle higher on the left side than on the right. Here, as on the lower extremities, while there is a sufficiently marked contrast between the atrophied and the sound skin, the line of definition is somewhat indistinct.

The Color.—This appears to be due to a blending of purple, red and brown. (See colored plate.) Those elements of the skin upon which its opacity and consequent whiteness depend seem to have disappeared, permitting the blood-vessels underneath to show through. This is especially evident near the margins of the atrophied portions, where veins which

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are clearly perceptible in the latter are suddenly lost to view as they enter the area of normal skin. Besides the purple hue of the numerous veins there is a red reflex from the arterioles and capillaries. In some places there is a lilac coloring due to the combined effects of arteries and veins. Almost everywhere also there is a browish discoloration which is made more evident when pressure is used so as to produce a temporary ischæmia of the part. In many places this brown pigmentation is seen to be punctate or in small lentigolike spots. It occurs over almost the entire atrophic area, and contributes a considerable quota to the general dusky discoloration. The color varies, however, with the patient's posture. Especially in the legs after the patient has been standing for a length of time the veins become turgid and greatly dilated, standing out as prominent tortuous ridges, and their deep purple color becomes everywhere predominant, giving the appearance of cyanosis.

In certain places, more especially over the legs and on the backs of the feet and hands, there are numerous whitish, scarlike patches, where the atrophy has been more profound, and perhaps in some places corresponding to the sites of old ulcerations. Even in many of these scarlike patches the punctate brown spots are distinctly present. Aside from these scarlike patches there are scattered over all the atrophic regions a multitude of small, slightly depressed spots which are apparent only on closer inspection, and which seem to imply that the degenerative process has not been absolutely uniform, but has been more pronounced in certain places than others. Such shallow depressions are scattered abundantly over the thighs, buttocks and arms.

Near the outer malleoli of both legs are shallow, indolent ulcers with sharp cut adherent edges and gray base, devoid of granulations and showing a scanty serous secretion.

The wrinkling of the skin is apparent almost everywhere in the affected regions, though less marked on the legs than on the thighs and buttocks. In most places the wrinkles are extremely fine, looking at a little distance like minute striæ. About the knees they are most pronounced. (See Fig. 2.) Here the thinned skin is thrown into numberless parallel transverse folds curving above and below the patellæ, leaving between them flat, smooth, glistening surfaces that look as if waxed or varnished. These flat, smooth surfaces are most marked over the patellæ. The wrinkling is well marked also over the nates, especially near the folds between the nates and thighs. The lines curve gracefully from the outer aspect of the thigh around the nates toward the cleft. Just back of the toes the skin is thrown into fine wrinkles or striations that radiate outward from the atrophied portion, which here is whitish and scarlike with a lilac-colored border.

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The hairy growth has almost entirely disappeared from the affected region, including the lanuga as well as the coarser hairs. Apparently the little dots of pigment scattered over the legs and arms mark the sites of degenerated hair follicles.

FIG. 2.

No sweating is apparent in the areas of atrophy. The patient states that his legs and arms are always dry, while the palms and soles sweat freely. While examining him, it was noticed that all around the borders of the feet, just without the atrophied portion, the skin was decidedly moist, while just above it was perfectly dry. To the touch the skin was like dry parchment. There seemed to be no change of temperature. It was neither below nor above normal. Almost everywhere the skin was freely movable over the subjacent structures. On the legs, however, it was less so than elsewhere, and in places here was adherent. Elsewhere it could be readily pinched up, always in very thin folds, however, which on being released returned again to the niveau, though a little more slowly than in the normal skin.

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The sense of touch over the affected region is very little if any diminished, but the skin is distinctly hyperæsthetic. The patient shrinks away from the points of the æsthesiometer much more when the latter touch the atrophied skin than when the sound skin is touched, due evidently to loss or thinning of the protective layers of the epidermis.

So far as could be ascertained, the organic muscles of the extremities were not noticeably atrophic. The patient was not aware of any weakness of the limbs, and the muscles were firm and hard to the touch. The abnormal sense of fatigue, however, of which the patient complained, would imply that they were not entirely unaffected. The thinner appearance of the legs is doubtless, chiefly at least, attributable to the loss of subcutaneous fat. The muscular strength of the limbs seems little if any impaired, and apparently there is perfect co-ordination as well as normal tendon reflexes.

The above, though evidently a case of idiopathic atrophy of the skin, differs very materially from all the common forms of macular, striate, or diffuse atrophia cutis propria. The latter, as a rule, are simply of the quantitative type, and resemble merely superficial cicatrices. Still less does this case resemble the stationary form of the xeroderma of Kaposi. Nor does it correspond to the symptomatic atrophies, such, for example, as succeed scleroderma and morphœa. Not only is there the history in such cases of a precedent condition of infiltration or induration, with more or less stiffness of the skin, but rarely even in the atrophied stage is the affected area devoid of a certain degree of condensation and immobility. Nevertheless, in their ultimate state, they may come to resemble the case which I have described above, and such cases have occasionally been reported as cases of idiopathic atrophy. In this category should, in all probability, be classed the "general idiopathic cutaneous atrophy" of Wilson, as well as the cases of Schwimmer * and Glax,† though these latter are both improperly referred to the xeroderma of Kaposi, that of Swimmer being also denominated "atrophia cutis universalis."

A case reported by Judassohn before the German Dermatological Society in September, 1891,‡ under the name of atrophia maculosa cutis, bore a certain resemblance in some of its features to the one just described. The lesions were symmetrical, and in some of the affected places the skin had the same dusky-red color and translucency, and was inelastic, wrinkled, and loosely adherent, but the atrophied spots

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* *Die neuropathische Dermatosen*, Wien, 1883, p. 189.
† *Viertelj. f. Derm. u. Syph.*, 1875, p. 114.
‡ *Monatshft. f. p. Derm.*, 1892, p. 621

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were preceded by an eruption of papular elevation, that remained circumscribed and discreet, varying in size from that of a lentil to that of a silver mark piece. On account of the looseness and elasticity of the skin, together with the preceding papulo-erythematous condition, he proposed the name *anetodermia erythematodes*. In a similar case presented by Beer,* at the Vienna Dermatological Society in February, 1892, the lesions were preceded by pronounced œdema. In both of these cases the atrophy affected chiefly the connective tissue, and more particularly the elastic fibres.

The clinical type to which my case most clearly corresponds was first described by Buchwald,† and so peculiar is the type and well differentiated is it by this writer that it might well be known as *Buchwald's atrophy*. In his case the affection occurred in a man thirty-six years of age, and had existed for sixteen years. It began at both knees and extended at first both upward and downward, later the extension being only upward, but upon the legs below the knees indolent ulcers often formed. The greatest extent was reached in one year from the inception of the disease, though within the affected areas the degeneration continued to increase. There were no prodromal symptoms, and the ætiology of the case was as obscure as that of mine. The entire surface of both knees and thighs was involved, reaching in front to within five centimetres of the inguinal fold, and behind extending up over the nates, much as in my own case. (Fig. 3.) The limits of the disease above were rather abrupt, the division between the normal, well-nourished, and fat skin above, and the somewhat sunken, darker-colored areas of atrophied skin below being marked by a pretty distinct ridge. The affected skin was freely movable over the adjacent structures, was nowhere bound down, rigid, nor œdematous. It could be raised in large folds when released, disappeared rather slowly or remained stationary until some movement caused them to disappear. Almost everywhere were multitudes of coarse or fine wrinkles. They were most marked about the knees, where they encircled the patellæ, partly arranged in semicircles, partly in elliptical forms. On standing the wrinkling became more striking. Similar but finer wrinkles occurred, as in my case, over the nates. While in a recumbent posture the color of the skin was brown from pigmentation, but on standing the veins rapidly filled and became distended, and the color of the surface became cyanotic. There was no perceptible difference in temperature from the

* *Arch. f. Derm. u. Syph.*, 1892, p. 835.

† Ein Fall von diffuser idiopathischer Haut-Atrophie. *Viertelj. f. Derm. u. Syph.*, 1883, p. 543.

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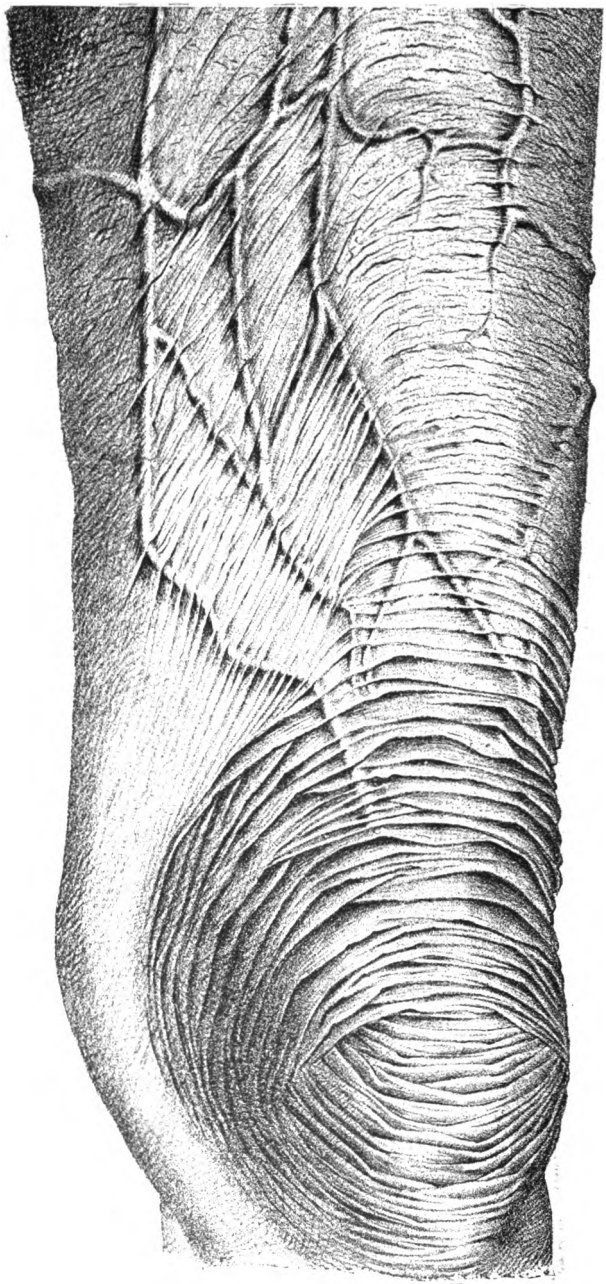

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normal. The hairs had mostly disappeared from the affected areas. That the sweat glands were involved was shown not only by the customary dryness of the affected skin, but by the fact that when pilocarpine was injected hypodermically in a sufficient dose to cause copious diaphoresis the atrophied portions of the skin remained as dry as before. Sensation was not impaired. A microscopic examination of an excised bit of the diseased integument showed that the adipose layer had entirely disappeared. There was a general atrophy of all the elements of the skin, the sweat glands were largely diminished, there was marked atrophy of the hair follicles and the papillæ of the skin had disappeared. The connective tissue underneath the epithelial layer appeared swollen and infiltrated with cell nuclei. The nerves and blood-vessels were unchanged.

Idiopathic cutaneous atrophy of the extremities, such as in this case of Buchwald's, to which my case so closely corresponds, is undoubtedly rare. Several other cases, however, have been reported which are so nearly alike in their general characters as to warrant us in regarding Buchwald's atrophy as a peculiar variety of disease. Two cases that are apparently of this variety have been reported by Pospolow,* though in these the symmetry was less pronounced and the laxity of the skin (judging from a photograph that accompanies one of the cases) was somewhat greater than either in Buchwald's case or in my own. The photograph shows dependent folds of skin resembling dermatolysis. Also in Pospolow's cases the sweat glands were unaffected; but in the main the features corresponded to those of Buchwald's atrophy.

Touton† and Kristian Groen‡ have reported cases that are more typical. In Touton's case both upper and lower extremities were affected symmetrically. Groen's case, in the location and extent of the atrophy, corresponded almost precisely to my own case. The patient was a sailor, forty-seven years of age, who entered the hospital for atonic ulceration of the leg, and had apparently paid little attention to the atrophic condition, and of this no history was obtainable.

DISCUSSION.

Dr. Sherwell said that the case had many features in common with a case produced at the last meeting of the New York Dermatological Society, but none of the physicians present could clear up the conundrum

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* *Annales de Derm. et de la Syph.*, 1886, p. 605.
† *Deutsche med. Wochensch.*, 1886, p. 6.
‡ *Norsk Magazine.* Referred to in the *Lancet*, Nov. 28, 1891, p. 1238.

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which it involved. Some peculiar trophic and nutritive change is present in this as in that.

DR. HYDE said that he would like to ask the reader whether there was in the case any suggestion of sclero dactylie.

DR. BRONSON: The case of Buchwald, in which sections were examined microscopically showed no new formation or enlargement in the blood vessels whatever. Any apparent increase may be accounted for by the translucent condition of the skin, resulting from the absence of the stratum granulosum. If there was any enlargement, it probably affected only the veins, which seemed unusually turgid. The loose and yielding character of the atrophied superposed skin caused them to become dilated through lack of normal support.

With regard to the question asked by Dr. Hyde, I think that the diagnosis "glossy skin" could be excluded with certainty. The fingers and toes had been absolutely unaffected. There was no history of injury. There were occasional shooting pains, with sudden twitching, to which I did not attach much importance. There was nothing like the causalgia that accompanies glossy skin. The only subjective symptom that was pronounced was the sense of discomfort or fatigue that disappeared shortly after resting.

The next paper was read by DR. ZEISLER of Chicago, on

THE RELATION OF IMPETIGO HERPETIFORMIS TO PEMPHIGUS VEGITANS.

(ABSTRACT.)

To anyone who has carefully studied the literature and the description of cases of impetigo herpetiformis and of pemphigus vegetans respectively, it must have become apparent that, while each of those rare disorders of the skin seem fairly well established as to their clinical characters there are certain features common to both of them, which make their differentiation at times one of the most difficult tasks even for the expert dermatologist, and if we consider the exceedingly small number of observations concerning either of those diseases, we can well understand how such is possible.

The writer's special interest in this question has been aroused through various criticisms accorded to a case of his, diagnosed by him as impetigo herpetiformis and described in detail and published in *Unna's Monatshefte f. prakt. Dermatologie* in 1887 (vol. vi., p. 950). From all that could be gathered about the nosological features of that dermatosis, from a comparison with Kaposi's plates in his well known classical article published in the *Vierteljahresschrift f. D. & S.* 1887, and supported by the corroborating opinion of his colleague, Dr. J. N. Hyde, there seemed to be no doubt of the correctness of the diagnosis. Still, Prof. Duhring,

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in a review of the question (*Monatsh. f. prakt. D.*, 1889), does not consider his case as characteristic, without venturing, however, a definite opinion as to what it could have been. Again, Th. Du Mesnil and Mar in a very elaborate paper (*Archiv. f. Derm. & Syph.*, 1889), pronounce his case as a typical example of impetigo herpetiformis. Dubreuilh, finally, who in the *Annules de Derm. et Syphiligr.*, of 1892, gave a careful resumé of the whole subject, asserts that the above alluded to description corresponds clearly, to his mind, to pemphigus vegetans. The same fate is assigned to an observation published by Heitzman (*Archives of Dermat.* Jan., 1878).

1. In comparing the natural history and evolution of the two diseases, it will soon become clear that both are chiefly encountered in women. This is particularly true concerning impetigo herpetiformis, the first 13 cases of which occurred all in female subjects, until Kaposi and later Dubreuilh each recorded one case in a male.

2. The inception of both diseases has been noted in almost all cases on some mucous membrane. For pemphigus vegetans this is almost invariably true. In impetigo herpetiformis it is also often observed and in the writer's patient an herpetic condition of the lips preceded by several months the appearance of other cutaneous lesions.

3. The dermal lesions show, in general, a great deal of resemblance in many respects. In both diseases there is a distinct tendency to peripheral extension of the lesions. Of the vegetations, which are held to be so characteristic of pemphigus vegetans as to sufficiently identify this form as a special variety of pemphigus, it is necessary to say that they have been noted under various circumstances. Similar formations are at times found in syphilis (exuberant condylomata). Unna speaks of them after severe burns. Cachexia seems to favor their formation. In impetigo herpetiformis they have been described in several instances, including the writer's case. In some cases of pemphigus the lesions may occasionally be so small as to suggest impetigo, in which the miliary pustules are considered as *the* feature determining the diagnosis. On the other hand large bullæ have been found to occur towards the later stages of impetigo herpetiformis (Heitzman, Zeisler).

4. The localization of the dermal lesions in both diseases is almost identical.

5. The fatal issue is alike noticeable in both.

6. The absolute obscurity concerning the etiology and pathology of both troubles makes their differentiation by no means easier.

It will therefore be admitted that cases may occur and have occurred which seem to stand on the border line between these two diseases, showing features common to both. Wherever, on the one hand, miliary

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pustules, peripherally extending, will, during the most of the duration, form the chief dermal lesions, the diagnosis will be in favor of impetigo herpetiformis. Where, on the other hand, larger bullæ will be most prominent, pemphigus will of course be declared. In doubtful cases a decision will have to be made after the principle "*de potiori denominatio fiat.*"

Discussion.

Dr. Hyde: When, under the stimulation of Crocker's monograph, I wrote the description of my patient, I confess that I had not in mind the exceedingly interesting case to which Dr. Zeisler has referred, and I am exceedingly glad now to do justice to the fact that he had seen it long before I had seen mine. I had, however, an opportunity of seeing his patient only once; Dr. Zeisler gave it long observation and study. The more I searched my mind the more I recalled points of resemblance between the two patients. With reference to the extension of the disease by miliary pustules and bullæ, there was also another mode of spreading the disease, by a peculiar undermining of the epidermis in the neighborhood of the patches. The skin would seem to be almost normal, and yet, when examined, it would be found to be overlying a serous exudate. There is one feature of pemphigus vegetans, as observed by me, to which I wish to refer: Beside the classical regions involved, there was also a necklace about the neck, and when the bullæ disappeared from this defined ring, a pigmented collar of dark hue was left, and on the surface of this devoid of bullæ there were minute lichenoid elevations and minute comedo-like points.

Dr. Atkinson: A number of the rare skin diseases have been shown to be closely related. I think in a number of the most rare diseases marked by profound modifications, the dermal lesion is the expression of more important trophic influence; the lesion is the symptom.

My impression is that in Kaposi's cases of Impetigo Herpetiformis, those cases in which post mortems were held led one to conclude that it was through some profound modification of the central nervous system that these symptoms were brought out, of which the cutaneous lesions were simply manifestations. We well know the common origin of diseases that have widely different ways of expressing themselves, and conversely, the diverse origin of diseases that sometimes express themselves in similar manner.

Dr. Duhring: I think Dr. Zeisler's view is a just one. It seems to me that we must approach the subject from two standpoints. First, the clinical, secondly, the etiological and pathological. Concerning the second, I believe that in most cases these two diseases are very much alike, if not identical, and are due to a profound disturbance of nervous centres, the nature of which we are for the most part ignorant.

As to the clinical aspect: I believe that we should distinguish and establish distinct types of these diseases, in order to study the subject. I think we should take Kaposi's cases as typical of impetigo herpetiformis, and I should regard the case of Dr. Hyde as a typical representation of

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pemphigus vegetans. Since our last meeting I have followed a case of pemphigus vegetans, and it presented a somewhat different picture from the cases heretofore reported. At the same time I have no doubt of the diagnosis. The case proved fatal in a short time.

I wish to emphasize the point that we must insist upon having types of cutaneous diseases, in order to make progress in the study of them. As to impetigo herpetiformis I would suggest that we still hold to the picture brought forward so graphically by Kaposi, and with those cases in mind I criticised Dr. Zeisler's observation. I desired to convey the idea that the cases of Dr. Zeisler were not in accord with Kaposi's definition; I should prefer to classify them as an unusual variety, rather than as types of the disease. Unusual varieties will, I believe, not prove to be very rare in the history of this rare disease. So with pemphigus vegetans, taking Crocker's and Hyde's cases as types we may note variations from them. I have no doubt that as our knowledge expands these diseases will be brought closer together. My opinion now is that while they are closely related, still clinically, there is a difference. For instance, my case of pemphigus vegetans would never be diagnosed by anyone as impetigo herpetiformis.

Dr. Zeisler stated in conclusion that it never was his intention to obscure the distinction between these two diseases, but to call attention to cases which border upon both, and to the difficulty of classifying each case. Dr. Zeisler asked whether the comedo-like bodies referred to by Dr. Hyde did not correspond to multiple milium.

Dr. Hyde stated that it would not occur to him that such was the case.

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STATISTICAL RETURNS

OF THE

AMERICAN DERMATOLOGICAL ASSOCIATION.

For the year 1893, *from January* 1 *to December* 31, inclusive.

TABLE I.—Showing the Returns from the Respective Districts.

Classification of Diseases.	Chicago.	St. Louis.	Cleveland.	Canada.	Philadelphia.	Boston.	New York.	Total.
Acne	256	131	59	77	125	604	505	1757
Actinomykosis	..	..	..	..	..	..	1	1
Albinismus	..	..	..	..	1	..	6	7
Alopecia	52	50	8	4	.	117	114	345
Alopecia areata	32	12	5	9	4	52	34	148
Alopecia furfuracea	45	10	..	1	..	78	49	183
Anæsthesia	..	..	..	2	..	..	2	4
Angioma	6	..	..	..	1	14	24	45
Angioma cavernosum	1	..	..	..	..	2	1	4
Anidrosis	..	..	..	..	..	3	1	4
Anthrax simplex (carbuncle)	2	2	..	2	1	..	13	20
Anthrax maligna	..	..	..	..	..	..	2	2
Asteatosis	..	..	..	..	..	..	13	13
Atrophia maculosa	..	..	..	..	..	..	2	2
Atrophia pilorum propria	..	..	1	..	..	..	..	1
Atrophia senilis	..	..	..	1	..	..	3	4
Atrophia striata	..	..	..	..	..	1	3	4
Atrophia unguis	2	..	..	1	..	3	3	9
Bromidrosis	2	1	..	1	3	1	23	31
Callositas	7	2	..	6	7	6	12	40
Canities	3	1	..	1	..	..	7	11
Carcinoma	3	..	..	1	..	9	6	19
Chloasma	21	6	..	1	7	17	34	86
Chromidrosis	..	..	..	..	..	..	3	3
Cicatrix	6	2	..	..	5	1	11	25
Clavus	2	..	..	..	10	2	47	61
Comedo	31	5	..	9	4	22	119	190
Cornu cutaneum	1	..	..	..	1	..	2	4
Dermatalgia	..	..	..	..	..	..	1	1
Dermatitis calorica	10	..	..	2	..	16	62	90
Dermatitis exfoliativa	..	..	1	1	1	..	3	6
Dermatitis gangrænosa	2	..	..	..	..	..	2	4
Dermatitis herpetiformis	13	4	..	3	2	8	9	39
Dermatitis medicamentosa	13	..	..	3	5	24	34	79
Dermatitis papillaris capillitii	..	..	2	..	1	1	3	7
Dermatitis traumatica	8	..	..	2	34	4	36	84
Dermatitis venenata	15	8	2	3	28	89	..	145
Ecthyma	5	..	..	4	21	20	..	50

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TABLE I.—*Continued.*

Classification of Diseases.	Chicago.	St. Louis.	Cleveland.	Canada.	Philadelphia.	Boston.	New York.	Total.
Eczema :	537	272	109	269	399	1427	1067	4080
a. erythematosum	..	..	..	..	..	..	..	..
b. papulosum	..	..	..	..	..	..	.	..
c. vesiculosum	..	.	..	..	..	..	..	..
d. madidans	..	..	..	..	..	..	..	..
e. pustulosum	..	..	..	..	..	..	..	..
f. rubrum	..	..	..	..	..	..	..	..
g. squamosum	..	..	..	..	..	..	..	..
Elephantiasis	1	..	1	..	..	..	3	5
Epithelioma	59	16	8	9	16	15	44	167
Equinia	..	..	..	..	..	..	1	1
Erysipelas	17	..	3	..	6	56	36	118
Erythema multiforme	7	5	.	1	5	32	37	87
Erythema nodosum	2	..	..	4	1	8	10	25
Erythema simplex	48	3	6	10	1	18	61	147
Erythrasma	5	..	..	..	..	..	1	6
Fibroma	3	1	..	..	..	2	11	17
Frambœsia	..	..	..	..	1	..	..	1
Furunculus	35	19	6	4	43	54	141	302
Granuloma fungoides	1	1	..	..	..	..	2	4
Herpes simplex	74	6	4	6	5	31	98	224
Herpes zoster	32	12	..	5	7	54	57	167
Hyperæsthesia	2	..	..	2	..	3	3	10
Hyperidrosis	9	3	1	3	4	12	32	64
Hypertrichosis	65	33	6	..	2	60	30	196
Ichthyosis	3	2	..	4	2	4	7	22
Ichthyosis congenita	1	..	..	5	..	..	1	7
Impetigo	24	1	..	6	3	58	40	132
Impetigo contagiosa	12	10	4	39	42	52	109	268
Impetigo herpetiformis	..	..	..	..	..	..	..	..
Keloid	4	1	..	..	5	2	8	20
Keratosis follicularis	1	..	..	..	..	..	5	6
Keratosis pilaris	6	5	..	..	..	6	38	55
Keratosis senilis	..	7	..	..	..	26	4	37
Lentigo	1	5	1	..	10	3	42	62
Lepra	2	..	..	..	..	1	4	7
Leucoderma	..	7	..	2	4	2	21	36
Lichen planus	50	2	5	3	8	13	35	116
Lichen ruber	..	..	1	..	..	..	1	2
Lipoma	1	..	..	..	..	..	18	19
Lupus erythematosus	29	1	1	5	5	15	38	94
Lupus vulgaris	6	2	2	3	3	7	27	50
Lymphangioma	..	..	..	..	..	..	5	5
Melanoderma lenticularis progressiva	..	..	.	..	..	1	..	1
Miliaria rubra	..	3	..	1	1	..	11	16

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TABLE I.—*Continued.*

Classification of Diseases.	Chicago.	St. Louis.	Cleveland.	Canada.	Philadelphia.	Boston.	New York.	Total.
Milium	18	2	1	1	5	8	53	88
Molluscum epitheliale	3	..	..	1	1	6	28	39
Morbilli	..	..	..	..	..	..	129	129
Morphœa	2	..	..	..	2	..	7	11
Myoma	..	..	..	..	..	..	..	..
Myxœdema	..	..	..	..	..	..	2	2
Nævus fibrosus	1	..	..	..	..	1	6	8
Nævus pigmentosus	18	22	17	..	1	3	26	81
Nævus pilosus	2	6	..	..	..	..	2	10
Nævus vascularis	6	15	..	2	..	2	18	43
Neuroma	..	..	..	..	..	..	2	2
Œdema circumscriptum acutum	1	..	..	.	..	2	18	21
Onychauxis	1	..	2	4	2	1	22	32
Pachydermatocele (or Dermatolysis)	..	..	..	..	..	..	2	2
Perdiculosis capillitii	26	3	1	33	26	166	139	394
Perdiculosis corporis	44	..	2	7	21	124	253	351
Perdiculosis pubis	19	..	5	1	12	5	41	83
Pellagra	..	..	..	..	..	..	..	..
Pemphigus	5	..	..	3	..	..	13	21
Pemphigus neonatorum	..	..	..	..	..	..	2	2
Phlegmona diffusa	2	..	..	..	..	..	15	17
Pityriasis maculata et circinata	11	..	3	6	2	21	12	53
Pityriasis rubra	..	..	1	1	..	..	4	6
Pityriasis rubra pilaris	1	..	..	..	..	..	2	3
Pompholix	..	..	..	1	..	..	18	19
Pruritis	98	13	11	29	28	90	77	346
Psoriasis	148	30	14	32	51	156	172	603
Purpura:	2	..	1	..	..	..	43	46
a. simplex	15	2	..	..	2	10	9	38
b. hæmorrhagica	6	..	..	..	..	..	2	8
Rhinoscleroma	..	..	..	..	..	..	2	2
Rosacea:	26	32	..	..	..	26	48	132
a. erythematosa	39	..	12	22	6	..	81	160
b. hypertrophica	1	..	1	4	..	..	14	20
Rubeola (German measles)	1	..	..	1	..	..	22	24
Sarcoma	1	..	1	..	..	..	11	13
Scabies	127	26	35	8	123	278	304	901
Scarlatina	..	..	..	..	..	..	77	77
Sclerema neonatorum	..	..	..	..	..	1	..	1
Scleroderma	..	..	..	..	..	..	4	4
Scrofuloderma	1	..	2	4	..	21	93	121
Seborrhœa:	9	40	2	..	15	110	152	328
a. congestiva	..	..	3	16	..	2	3	24
b. oleosa	14	..	12	32	..	..	26	84
c. sicca	41	.	13	13	18	..	32	117

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TABLE I.—*Continued.*

Classification of Diseases.	Chicago.	St. Louis.	Cleveland.	Canada.	Philadelphia.	Boston.	New York.	Total.
Steatoma	5	3	..	..	1	4	6	19
Sudamen	1	..	..	..	..	..	25	26
Sycosis vulgaris	26	13	5	6	18	10	49	127
Syphiloderma	880	85	44	57	65	333	916	2380
Tinea favosa	12	2	3	3	4	16	60	100
Tinea trichophytina :	4	..	..	..	..	119	184	307
a. circinata	27	5	9	10	40	20	12	123
b. tonsurans	9	7	3	24	30	14	56	143
c. sycosis	22	2	2	11	9	16	21	83
Tinea versicolor	24	7	4	4	9	27	117	192
Trichorrexis nodosa	..	..	1	..	..	..	..	1
Uridrosis	..	..	..	..	..	..	..	..
Urticaria	52	13	9	34	45	167	168	488
Urticaria pigmentosa	1	..	..	3	..	1	8	13
Vaccinia	..	..	..	1	..	..	9	10
Varicella	..	..	..	..	2	1	46	49
Variola	..	..	..	..	..	..	18	18
Verruca	65	21	6	7	10	29	54	192
Vitiligo	17	..	..	1	2	10	13	43
Xanthoma	5	..	..	2	1	8	10	26
Xerosis	3	..	3	..	..	3	1	12
							Total	18,924

From above list 18,924
From irregular list 348

Total cases reported 19,272

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Cases reported under names not on regular list of the American Dermatological Association.

	Chicago.	St. Louis.	Cleveland.	Canada.	Philadelphia.	Boston.	New York.	Total.
Abscess	..	..	..	..	..	5	..	5
Acne indurata	..	..	..	..	..	..	1	1
Acne varioliformis	..	..	..	..	..	..	4	4
Addisons disease	..	..	1	..	..	..	..	1
Adenitis	..	..	..	..	..	1	..	1
Angio-keratoma	2	..	..	..	..	..	..	2
Angio-serpiginosum	..	..	..	..	..	1	..	1
Atheroma	..	..	..	..	..	..	6	6
Cheilitis glandulosa	..	..	..	..	..	1	..	1
Dermatitis	3	..	..	..	..	117	..	120
Dermatitis hæmostatica	..	..	..	..	..	..	7	7
Dermatitis multiforme	..	..	..	..	..	1	..	1
Dysidriosis	..	..	..	.	.	..	3	3
Eczema seborrhoicum	..	..	..	..	..	..	34	34
Erythema pernio	..	..	1		..	..	..	1
Feigned eruption	..	..	..	1	..	..	..	1
Folliculitis capillitii	..	..	1	..	..	..	..	1
Herpes iris	..	..	..	..	..	1	2	3
Hordeolum	..	..	..	..	..	1	..	1
Hydradenitis axillae	..	..	..	..	..	..	1	1
Indolent lesions, the supposed prodomata of Epithelioma	..	..	3	..	.	..	..	3
Keratoma palmare diffusa	..	..	..	..	..	..	3	3
Leucopathia ungium	..	..	..	..	1	..	..	1
Lichen pilaris	..	..	..	..	..	..	1	1
Lymphangioma circumscriptum	..	..	..	..	..	1	..	1
Melanoderma	..	..	..	..	..	4	..	4
Morbus Addisoni	1	..	..	..	..	..	..	1
No diagnosis	..	..	..	..	..	25	.	25
Papilloma	..	..	..	..	..	..	1	1
Paronychia	..	..	..	..	..	..	1	1
Pemphigus foliaceus	..	1	..	..	..	..	..	1
Pityriasis simplex	..	..	..	..	..	..	6	6
Prurigo	4	..	..	..	..	1	4	9
Prurigo mitis	..		..	..	..	2	..	2
Sarcoma idiopathic pigmented	..	..	1	..	..	..	..	1
Simulatio	..	..	..	..	..	..	1	1
Telangiectasis	..	..	..	..	..	1	..	1
Tuberculosis	3	..	..	..	..	26	1	30
Ulcera	..	..	..	..	..	12	12	24
Ulcus cruris simplex	..	..	..	..	..	..	36	36
Ulcus rodeus	1	..	..	..	..	..	..	1
							Total	348

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II.

COMBINED RETURNS OF STATISTICS

OF THE

AMERICAN DERMATOLOGICAL ASSOCIATION,

FOR THE PERIOD EXTENDING FROM JULY, 1877, TO JANUARY, 1893.

Acne	16559	8.08
Actinomykosis		
Albinismus	13	0.006
Alopecia	1839	0.898
Alopetca areata	1539	0.751
Alopecia furfuracea	1563	0.763
Anæsthesia	26	0.012
Angioma	788	0.384
Angioma cavernosum	31	0.015
Anidrosis	25	0.018
Anthrax simplex (carbuncle)	369	0.175
Anthrax maligna	179	0.087
Asteatosis	16	0.007
Athrophia maculosa	39	0.018
Athropia pilorum propria	27	0.012
Atrophia senilis	26	0.012
Atrophia striata	39	0.018
Atrophia unguis	93	0.046
Bromidrosis	185	0.090
Callositas	256	0.120
Canities	95	0.047
Carcinoma	1623	0.791
Chloasma	929	0.452
Chromidrosis	14	0.006
Cicatrix	143	0.069
Clavus	409	0.2
Comedo	1913	0.933
Cornu cutaneum	58	0.028
Dermatalgia	13	0.006
Dermatitis calorica	489	0.239
Dermatitis exfoliativa	97	0.048
Dermatitis gangrænosa	78	0.036
Dermatitis herpetiformis	186	0.090
Dermatitis medicamentosa	463	0.225
Dermatitis papillaris capillitii	1	0.0004
Dermatitis traumatica	1080	0.527
Dermatitis venenata	1517	0.740
Dermatitis	2755	1.344
Ecthyma	1131	.552
Eczema	60940	29.746
a. erythematosum		
b. papulosum		
c. vesiculosum		
d. madidans		
e. pustulosum		
f. rubrum		
g. squamosum		
Elephantiasis	89	0.043
Epithelioma	365	0.178
Equinia	1	0.0004
Erysipelas	1827	0.891
Erythema multiforme	1387	0.677
Erythema nodosum	247	0.120
Erythema simplex	1737	0.843
Erythrasma	5	0.0024
Fibroma	184	0.090
Frambœsia	24	0.011
Furunculus	3454	1.686
Granuloma fungoides	4	0.0018
Herpes simplex	3119	1.686
Herpes zoster	2415	1.174
Hyperæsthesia	47	0.023
Hyperidrosis	653	0.318
Hypertrichosis	1093	0.533
Ichthyosis	466	0.227
Ichthyosis congenita	3	0.0014
Impetigo	2480	1.161
Impetigo contagiosa	2106	1.028
Impetigo herpetiformis	18	0.009
Keloid	257	0.121
Keratosis follicularis	24	0.011
Keratosis pilaris	323	0.158
Keratosis senilis	225	0.105
Lentigo	299	0.146
Lepra	56	0.022
Leucoderma	192	0.093
Lichen planus	599	0.204
Lichen ruber	52	0.026
Lipoma	43	0.021

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TABLE II.—*Continued.*

Lupus erythematosus	868	0.423
Lupus vulgaris	855	0.417
Lymphangioma	44	0.0214
Melanoderma lenticularis progressiva	7	0.0034
Miliaria rubra	52	0.0253
Milium	413	0 231
Molluscum epitheliale	382	0.162
Morbilli	92	0.045
Morphœa	78	0.0331
Myoma	2	0.0009
Myxœdema	3	0.0014
Nævus fibrosus	13	0.006
Nævus pigmentosus	299	0.141
Nævus pilosus	34	0.016
Nævus vascularis	69	0.033
Neuroma	20	0.009
Œdema circumscriptum acutum	31	0.015
Onychauxis	155	0.076
Pachydermatocele (or Dermatolysis)	1	0.0004
Pediculosis capillitii	4236	2.0067
Pediculosis corporis	2837	1.379
Pediculosis pubis	682	0.331
Pellagra		
Pemphigus	291	0.142
Pemphigus neonatorum	3	0.0014
Phlegmona diffusa	378	0.184
Pityriasis maculata et circinata	278	0.135
Pityriasis rubra	66	0.032
Pityriasis rubra pilaris	2	0.0009
Pompholix	26	0.012
Pruritus	4398	2.000
Psoriasis	6952	3.392
Purpura	484	0.236
a. simplex	447	0.218
b. hæmorhagica	106	0.081
Rhinoscleroma	7	0.0034
Rosacea	1768	0.863
a. erythematosa	927	0.452
b. hypertrophica	93	0.046
Rubeola (German measles)	50	0.024
Sarcoma	110	0.053
Scabies	8306	4.054
Scarlatina	60	0.024
Sclerema neonatorum	1	0.0004
Scleoderma	85	0.041
Scrofuloderma	1046	0.510
Seborrhœa	8116	1.521
a. congestiva	68	0.033
b. oleosa	805	0.392
c. sicca	966	0.471
Steatoma	294	0.143
Sudamen	481	0.234
Sycosis vulgaris	803	0.392
Syphiloderma	24112	11.779
Tinea favosa	727	0.354
Tinea trichophytina	3429	1.624
a. circinata	1505	0.734
b. tonsurans	1323	0.641
c. sycosis	786	0.384
Tinea versicolor	2324	1.184
Trichorrexis nodosa	9	0.004
Uridrosis	15	0.007
Urticaria	5750	2.806
Urticaria pigmentosa	24	0.011
Vaccinia	42	0.0205
Varicella	146	0.071
Variola	21	0.0103
Verruca	2105	1.027
Vitiligo	382	0.186
Xanthoma	141	0.069
Xerosis	164	0.080
Total	204866	

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III.

COMBINED RETURNS

OF THE

AMERICAN DERMATOLOGICAL ASSOCIATION.

FROM JUNE 30, 1887, TO JAN. 1, 1893.

	No. Cases.	% Cases.
Acne	7462	7.173
Actinomykosis		
Albinismus	4	0.004
Alopecia	913	1.001
Alopecia areata	745	0.817
Alopecia furfuracea	733	0.804
Anæsthesia	3	0.003
Angioma	313	0.343
Angioma cavernosum	9	0.009
Anidrosis	14	0.015
Anthrax simplex (carbuncle)	107	0.117
Anthrax maligna	2	0.002
Asteatosis	8	0.008
Atrophia maculosa	43	0.047
Atrophia pilorum propria	6	0.006
Atrophia senilis	11	0.012
Atrophia striata	14	0.015
Atrophia unguis	48	0.052
Bromidrosis	73	0.081
Callositas	146	0.160
Canities	52	0.057
Carcinoma	555	0.608
Chloasma	364	0.404
Chromidrosis	7	0.007
Cicatrix	54	0.059
Clavus	325	0.356
Comedo	688	0.754
Cornu cutaneum	16	0.017
Dermatalgia	13	0.014
Dermatitis calorica	265	0 290
Dermatitis exfoliativa	83	0.091
Dermatitis gangrænosa	69	0.075
Dermatitis herpetiformis	145	0.159
Dermatitis medicamentosa	355	0.389
Dermatitis papillaris capillitii	10	0.011
Dermatitis traumatica	525	0.575
Dermatitis venenata	901	0.988
Ecthyma	426	0.467
Eczema	23275	25.528
a. erythematosum		
b. papulosum		
c. vesiculosum		
d. madidans		
e. pustulosum		
f. rubrum		
g. squamosum		
Elephantiasis	32	0.035
Epithelioma	465	0.510
Equinia	1	0.001
Erysipelas	801	0.878
Erythema multiforme	390	0.427
Erythema nodosum	126	0.138
Erythema simplex	814	0.892
Erythrasma	5	0.005
Fibroma	89	0.097
Frambœsia	2	0.002
Furunculus	1225	1.332
Granuloma fungoides	6	0.006
Herpes simplex	1062	1.164
Herpes zoster	987	1.082
Hyperæsthesia	32	0.035
Hyperidrosis	327	0.349
Hypertrichosis	578	0.632
Ichthyosis	157	0.172
Ichthyosis congenita	3	0.003
Impetigo	711	0.780
Impetigo contagiosa	1508	1.643
Impetigo herpetiformis	8	0.008
Keloid	95	0.104
Keratosis follicularis	23	0.025
Keratosis pilaris	218	0.238
Keratosis senilis	157	0.172
Lentigo	172	0.188
Lepra	15	0.016

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TABLE III.—*Continued.*

	No. Cases.	% Cases.
Leucorderma	115	0.126
Lichen planus	308	0.327
Lichen ruber	25	0.027
Lipoma	46	0.050
Lupus erythematosus	391	0.429
Lupus vulgaris	319	0.349
Lymphangioma	28	0.030
Melanoderma lenticularis progressiva	7	0.007
Miliaria rubra	50	0.055
Milium	191	0.209
Molluscum epitheliale	160	0.175
Morbilli	92	0.109
Morphœa	30	0.043
Myoma	1	0.001
Myxædema	3	0.003
Nævus fibrosus	13	0.014
Nævus pigmentosus	211	0.231
Nævus pilosus	34	0.037
Nævus vascularis	69	0.075
Neuroma	9	0.009
Œdema circumscriptum acutum	31	0.034
Onychauxis	85	0.093
Pachydermatocele (or Dermatolysis)	1	0.001
Pediculosis capillitii	1657	1.817
Pediculosis corporis	1139	1.249
Pediculosis pubis	246	0.269
Pellagra		
Pemphigus	108	0.118
Pemphigus neonatorum	3	0.003
Phlegmona diffusa	113	0.124
Pityriasis maculata et circinata	207	0.216
Pityriasis rubra	22	0.024
Pityriasis rubra pilaris	2	0.002
Pompholix	24	0.026
Pruritus	1682	1.843
Psoriasis	2821	3.094

	No. Cases.	% Cases.
Purpura	201	0.220
a. simplex	266	0.291
b. hæmorrhagica	57	0.062
Rhinoscleroma	4	0.004
Rosacea	1213	1.318
a. erythematosa	546	0.598
b. hypertrophica	85	0.093
Rubeola (German measles)	50	0.055
Sarcoma	55	0.060
Scabies	5114	5.609
Scarlatina	60	0.065
Sclerema neonatorum	4	0.004
Scleroderma	48	0.052
Scrofuloderma	383	0.419
Seborhœa	1076	1.180
a. congestiva	68	0.074
b. oleosa	438	0.480
c. sicca	571	0.626
Steatoma	143	0.157
Sudamen	213	0.232
Sycosis vulgaris	575	0.630
Syphiloderma	10224	11.207
Tinea favosa	373	0.409
Tinea trichophytina	1140	1.239
a. circinata	800	0.877
b. tonsurans	648	0.710
c. sycosis	411	0.450
Tinea versicolor	1061	1.164
Trichorrexis nodosa	4	0.003
Uridrosis	15	0.016
Urticaria	2756	3.021
Urticaria pigmentosa	23	0.025
Vaccinia	42	0.046
Varicella	146	0.160
Variola	21	0.023
Verruca	952	1.044
Vitiligo	191	0.209
Xanthoma	84	0.092
Xerosis	64	0.070
	89173	

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TABLE III.—*Continued.*

Cases reported under names not on regular list of the American Dermatological Association.

	No. Cases.	% Cases.		No. Cases.	% Cases.
Abscess	48	0.052	Mycosis fungoides	2	0.002
Acne frontalis	2	0.002			
Acne varioliformis	4	0.004	Nævus vermicosus	1	0.001
Adenitis	4	0.004			
Non-diathetic	5	0.005	Onychia	12	0.013
Simple diathetic	40	0.043	Onchomycosis	2	0.002
Adenophathy	58	0.063			
Angio keratoma	2	0.002	Papilloma	12	0.013
Atheroma	5	0.005	Paronychia	2	0.002
Atrophia cutis	1	0.001	Pediculosis	15	0.016
			Perforating ulcer foot	2	0.002
Condyloma acuminata	2	0.002	Pigmentation (universal from argenti nitras)	1	0.001
Cellulitis	8	0.008	Pityriasis simplex	13	0.014
Crab. cellulitis	6	0.006	Pernio	1	0.001
			Prurigo	57	0.062
Dactylitis	1	0.001	Purpura rheumatica	2	0.002
Dactylitis syphilitica	2	0.002			
Dermatitis	1235	1.354			
Dermatitis multiformis	2	0.002	Rhinophyma	1	0.001
Dermoid cyst	3	0.003			
Dysidrosis	13	0.014	Syphilis hereditary	26	0.028
Exanthemata	5	0.005	Tuberculosis	48	0.052
Excoriation	6	0.006	Tuberculosis verrucosa	7	0.007
Fistula ani	3	0.003	Ulcera	214	0.234
Folliculitis	8	0.008	Ulcera varicosa	20	0.021
			Unclassified	80	0.087
Herpes iris	3	0.003			
Herpes progenitalis	7	0.007	Total	2002	
Hydradenoma	2	0.002			
Keratoma palmare	3	0.003	From regular list	89173	
Kraurosis vulvae	1	0.001	From above list	2002	
Lichen scrofulosorum	3	0.003			
Lichen simplex	1	0.001	Total cases reported	91175	
Lichen ruber pilaris	1	0.001			

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A LIST OF THE PUBLICATIONS OF THE MEMBERS

DURING THE YEAR ENDING SEPTEMBER 1ST, 1894,

ALLEN, C. W. 1. Gangrene of the scrotum. *Journal of Cutan. and Gen.-Urin. Diseases,* February, 1894.—2. Syphilis of the epididymus. *The Amer. Journal of the Medical Sciences,* April, 1894.—3. Purpura. *Morrow's System Gen. Urin. Dis., Syph. and Dermat.,* vol. iii.—4. Editorial work and book reviews.

BOWEN, J. T. 1. The prevalence and recognition of scabies. *Boston Medical and Surgical Journal,* Feb. 1, 1894.—2. Hydroa vacciniforme, Bazin; Hutchinson's summer eruption; with histological examination. *Journal of Cutaneous and Gen.-Urinary Diseases.* March, 1894.—3. On an epidemic of alopecia areata in Boston, U. S. A. *British Medical Journal,* March, 1894.—4. Reports on dermatology. *Boston Medical and Surgical Journal,* Sept. 14, 28, 1893; March 8, 15, 1894.—5. Articles on tuberculosis of the skin and lupus erythematosus. *Morrow's System of Genito-Urinary Dis., Syphilology and Dermatology.*

CANTRELL, J. A. 1. Bismuth subgallate (dermatol) in dermatology. *Therapeutic Gazette,* April 15, 1894.—2. A case of herpes zoster, showing erythematous, papular and vesicular stages. *Medical News,* April 21, 1894.—3. A treatment for ivy poisoning. *Phila. Polyclinic* May 12, 1894.—4. Alumnol in dermatology. *College and Clinical Record,* May 15, 1894.—5. The parasites of the skin (lecture to nurses at Presbyterian Hospital). *American Lancet,* July, 1894.—6. Salol in eczema. *College and Clinical Record,* July, 1894.—7. Salol in impetigo contagiosa. *American Therapist,* Aug., 1894.

With Dr. E. J. Stout.—1. Heat in Ringworm. *American Therapist,* April, 1894.—2. Keloid, with two cases. *Phila. Polyclinic,* August 4th, 1894.—3. A case of favus of the head and body. *Jour. Cut. and Gen. Urin.,* Sept. and Oct., 1894.

CORLETT, W. T. 1. Malignant growths of the skin, particularly of the face, their early recognition and treatment *N. Y. Med. Rec.,* Sept. 2, 1893.—2. A case of circumscribed scleroderma (morphœa). *Jour. Cut. & Genito-Urinary Dis.,* Feby, 1894.—3. Pemphigus, its clinical varieties and treatment, with report of unusual cases. *Am. Jour. Med. Sciences,* April, 1894.—4. Report of International Medical Congress, Section of Dermatology and Syphilology, 1894. *Jour. Cut. & Genito-Urinary Dis.,* May, 1894.—5. Letters from the International Medical Congress, Rome. *Western Reserve Med. Jour.,* May, 1894.—6. Leprosy in Spain and Morocco.—Medicine among the Moors. *Cleveland Med. Gaz.,* August, 1894.—7. Psoriasis, pityriasis

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maculata et circinata, dermatitis exfoliatitiva, pityriasis rubra and epidemic exfoliative dermatitis. *Morrow's System Genito-Urinary Dis., Syph. and Dermat.*, Vol. iii.—8. Book reviews. *Cleveland Med. Gaz.*

CUTLER, C. W. Lectures in Dermatology. Published by Putnam & Sons.

DUHRING, L. A. 1. The scope of dermatology. *Jour. Amer. Med. Assoc.*, Feb. 17, 1894. 2. Compound tincture of coal tar. *Amer. Jour. of the Med. Sci.*, May, 1894.

ELLIOT, G. T. 1. A case of varicose lymphangrectosia, etc. *Journ. Cutan and Gen.-Urin. Dis.*, April, 1894.—2. An unusual and exaggerated case of turpetigo contagiosa bullosa. *Journ. Cut. and Gen.-Urin. Dis.*, May, 1894.—3. In Morrow's System; Erythema simplex, erythema symptomaticum, erythema scarlatiniforme, erythema exudativum, erythema multiforme, erythema bullosium—iris—nodosum, erythema induratum des scrofuleux, erysipelas, erysipeloid, pellagra, acrodynia, dermatitis seborrhoica, dermatitis exfoliativa neconatorum, sphaceloderma—dermatitis, gangraenosa infantum—multiple gangrene in adults—symmetrical gangrene—diabetic gangrene, seborrhœa oleosa et sicca, asteatosis, comedo, milium, steatoma, acne simplex, induratum, rosaccea, varioliforms.

FORDYCE, J. A. Contribution to the pathology of acne valioliformis Hebræ. *Jour. Cutan. and Gen.-Urin. Dis.*, April, 1894.—2. Adenoma of the sweat glans. *Morrow's System Gen.-Urin. Dis., Syph. and Dermat.*, vol. iii. Multiple benign cystic epitehlioma. *Ditto.*—Lymphangioma tuberosum multiplex. *Ditto.*—Multiple benign tumor like growths of the skin. *Ditto.* Leucokeratosis buccalis. *Ditto.*—Epithelioma. *Ditto.*—Rodent ulcer. *Ditto.*—Carcinoma of the skin. *Ditto.* Sarcoma cutis. *Ditto.*—3. Editorial work and book reviews. *Jour. Cutan. and Gen.-Urin. Dis.*, 1893 and 1894.

HARDAWAY, W. A. Keratosis of palms and soles probably due to arsenic. *Brit. Jour. Dermat.*, Oct., 1893. 2. A case of tuberculosis of the skin simulating lupus erythematosus and erythematoid lupus vulgaris. *Amer. Jour. Med. Sci.*, April, 1894.—3. Section on the skin diseases of children in "*An American Text-book of Diseases of Children*, edited by Louis Starr, M. D., Philadelphia, 1894.—4. Chapter on etiology, diagnosis, nævus vascularis and xeroderma pigmentosum in a "System of Dermatology," edited by P. A. Morrow, M. D., New York, 1894.

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TRANSACTIONS

OF THE

American Dermatological Association

AT ITS

NINETEENTH ANNUAL MEETING

HELD AT THE

WINDSOR HOTEL, - - - MONTREAL, CANADA,

September 17th, 18th and 19th, 1895.

Official Report of the Proceedings

BY

CHARLES WARRENNE ALLEN, M. D., SECRETARY.

NEW YORK:

PRESS OF GEO. L. GOODMAN & CO.,

9 CLIFF STREET.

1896.

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1895.

AMERICAN DERMATOLOGICAL ASSOCIATION,

NINETEENTH ANNUAL MEETING.

First Day, Tuesday, May 29th—Morning Session at 10:30 o'clock.

The Nineteenth Annual Meeting of the American Dermatological Association was held at the Windsor Hotel, Montreal, Canada.

The session was opened by an address from the President, Dr. S. Sherwell, of Brooklyn, N. Y., as follows:

Gentlemen—It gives me great pleasure to see the full attendance at this, the 19th annual meeting of the association. My first duty, that of welcoming members and guests, will only be exceeded in the same feeling by the satisfaction I shall have in the last—that of greeting my successor to the chair. It is evident from the large number of papers offered, the importance of the subjects therein presented, and the names thereto attached, that the session will be in high degree interesting and instructive.

It has been the custom (sometimes honored in the breach) for the presiding officer, as a preliminary to the business session, to give an address, or resumé of work done by this association, or by the Dermatological world at large, on some particular or upon various subjects, and this address has been usually of the highest academic order and importance. I can not emulate my predecessors in this, and shall occupy but little time in the few remarks I have to offer, but may say briefly that some months since I had thought of presenting a somewhat ambitious statistical review of a subject which has always interested me, viz.: "The relative disparity, and excess in number of the foreign-born residents of the United States (in cities at least) over the native

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born, applying to the various hospital and dispensing institutions for relief." I have done a good deal of work in this direction in reviewing the records of the institution in which I hold my largest clinic (The Brooklyn Eye and Ear Hospital), and fully expected that my preconceived notions would be strikingly borne out by figures. This has not been so, at least to the extent I had imagined probable; the comparative proportion of the foreign element, while still in excess over that of the native born, was not so marked as I thought it would be when the census percentages of the diverse elements of the population of the city were taken into consideration.

This apparent mistake in judgment confounded me. True it has been said that "nothing lies so much as facts, except figures," and though seemingly "convinced against my will, I am of the same opinion still," for I believe the figures still err, and this for reasons that are apparent to me, and which I will briefly mention later.

My clinic in this hospital I founded some twenty-three years since. It was started as a mixed clinic for the treatment of skin and throat affections, as an auxiliary to the proper work of the hospital, and I think I may add with a certain degree of complacency that this was the first auxiliary clinic of this kind, by some years, connected with an eye and ear hospital, all or almost all of these institutions having such attachments now, which goes to show, I fancy, that their use and benefits are sufficiently well recognized.

In this institution and in this department we have now registered approximately 24,000 new cases, and curiously enough these are divided as to number about equally between diseases of the skin and those of the throat or upper air passages. No new case is entered in the books except under one heading, that of the major trouble (or what appears to be such); the other lesions are considered incidental, so that every case represents a separate individual.

For the first few years it would seem as if skin diseases largely predominated (or what is quite as likely, were given more prominence by my own preference); now throat affections surpass them in yearly number, but in each division there are now, in round numbers, about 12,000 registered.

It may well be imagined that wading through this mass of figures to substantiate my belief would be no holiday task, though at first I had so intended, and had in fact begun so to do. Later, I conceived that it would be equally satisfactory and convincing if say a thousand consecutive cases taken from the records would furnish the same general end and conclusion, and so adopted this latter plan.

I began accordingly at patient 6,000 of the mixed clinic, entering

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patients as they presented themselves, and continued to case No. 6,999, with the following result:

Natives (so declaring themselves) of U. S. A	585
" of Ireland	212
" " Germany	53
" " Great Britain (other than Irish)	46
" " France	2
" " Scandinavia	16
" " Italy	1
" " Spain, Cuba, and various other countries	15
Nativity not noted	70
	1,000

Rather surprised at this feeble and colorless confirmation of my claim, I instituted another quest, and took as before from the mixed order in which they are entered another one thousand cases, this time consecutive skin cases only, beginning at patient registered as 20,000, with result as follows:

Natives of U. S. A	690
" " Ireland	138
" " Germany	66
" " Great Britain	43
" " Scandinavia	22
" " France	3
" " Italy	4
" " Spain and Cuba	4
" " other countries	19
" " not noted	11
	1,000

Brooklyn's population (census of 1890) is estimated at, native born, 544,643; foreign, 261,700. I will not go into detail as to percentages, but it can be seen from this showing that my opinion, while correct in some degree, has not been so strikingly confirmed by figures as was expected; but as explanatory, and as reconciling the apparent contradiction, I must urge the following reasons, to explain the rooted convictions of myself and colleagues, and doubtless those of other medical men attached to like institutions.

We, the attending physicians at these hospitals, often I think find that many young adults, who have come here with their parents

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as infants or very young children, claim nativity as well as citizenship in this country. I think this occurs very frequently; names and appearances going far to render this reasonable. Not a few lie directly and with intention; again, there is relatively a very large number of infants and young children brought to these institutions by their parents, who, though in very truth native born, are still the children of foreign born poor people, and who for all intents and purposes of racial distinction might as well have been born in Dublin, Berlin, London or Stockholm. Especially is this true of late years as regards Italians, the influx of this element being of late years excessive. I think this is the true explanation, and one to be taken into account by any one gathering statistics, in the cities at least, on this or any other question in the United States; and the whole moral of this I hope not too tiresome statement lies here—that figures can deceive.

It is worthy of note, however, the very small proportion of the Latin races who apply for gratuitous relief, in spite of their being well represented in numbers in the census reports. It would seem at a casual glance that the French and Spanish races are quite averse to presenting themselves as objects for charitable treatment.

I approach the subject of recommendation of future work for this body with great diffidence, for I regard this association as a Dermatological Supreme Court, and feel that the aphorism "*de minimis non curat lex*," applies here, and should stand. I also know that its discussions are, and should be, on the higher order of scientific matter, academic and polemic. It would, however, seem to me that bacteriology and kindred studies have certainly received their meed of attention in this and other countries during the last few years, so as a clinician pure and simple I cannot forbear mentioning and commending to you a subject not in my opinion a petty one, and one in which I, and I know many of my colleagues, both present and absent, have great interest, namely, "the constitutional treatment of diseases of the skin," I will not say as opposed to their local and topical handling, but as a coincident and efficient factor, and I think some consideration of this subject at some future meeting, by the competent minds belonging to this association, would be welcome and important.

It ought, I think, never to be forgotten that empiric and experimental medicine have their rights and triumphs, perhaps not less in degree than those derived from other means of research, and without wishing to decry or diminish in any way the importance and benefit derived from microscopical investigation, from my own moderate knowledge thereof it would seem to me that a very great deal of pseudo science is indulged in by raw men in this field. We are all

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willing to accept the work, and usually the conclusions, of the masters of these branches, but we are oft-times asked to take too much on trust, as it were, in the dermatological as well as in other sections of the medical world.

In this connection I am glad to see the attention lately paid to constitutional treatment in dermatology by leaders of dermatological thought in Great Britain, as evidenced in the address of the late President of the Association of Great Britain and Ireland, by Crocker, and by Malcolm Morris in his paper before the British Medical Society, and also by others.

I hope I shall not be considered as too conservative, or as one wanting to "conserve chaos," if I give my opinions, and they are of course only individual, when I say in closing that I am still a strong believer in diathetic conditions in individuals, and in the existence of constitutional predisposing, or better still, of pre-predisposing causes of disease in the skin, as elsewhere in the economy. As a clinician this truth, unless my powers of observation are warped, is surely so. And, further, that to maintain, as many, perhaps most, to-day do, that a microbic agent is the sole one in the production of such diseases as acne, eczema, psoriasis, rosacea, etc., etc., is, I believe, a very great error.

I will now, however, not lapse into controversy, unless I have already so transgressed, but without further use of very valuable time do declare this session opened for the transaction of its regular business.

Dr. John A. Fordyce, of New York, read a report of

CASES OF ANGIOKERATOMA OF THE SCROTUM—RAYNAUD'S DISEASE OF THE EARS—LUPUS ERYTHEMATOSIS OF THE HANDS AND ARMS, DISAPPEARING DURING PREGNANCY; WITH COLORED DRAWINGS AND PHOTOMICROGRAPHS.

Angiokeratoma of the Scrotum.

The patient, a male aged sixty, was admitted to the City Hospital in the spring of 1894 for some urinary trouble. He was somewhat feeble both mentally and physically, and could give little information regarding the eruption which was present on his scrotum, except to say that he had had it for a number of years.

He feared that some harm would come to him if he remained in the hospital, and demanded his discharge before a careful study could be made of the interesting skin lesions which he presented.

An opportunity was afforded, however, of excising a number of the small tumors for microscopic purposes, and of having made the

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colored sketch, which is reproduced in connection with the present article.

The skin covering the thighs and lower part of the abdomen was the seat of a number of patches of vitiligo. The patient was also affected with a double varicocele, which is interesting in connection with the superficial vascular dilatation. His hands and feet were free from any skin affection, and he denied having suffered with chilblains. The scrotum, especially on its lateral and posterior surfaces, was the seat of a great number of small, spherical-shaped, dark purple tumors (see colored plate). They were arranged in a linear manner as if following the superficial vascular supply of the parts. The small growths were from a pin's head to several times that size, the dimensions being pretty uniform. Pressure caused the color of the majority of the tumors to disappear. In some of them, however, the color was only partially lost.

The small growths were distinctly elevated above the surface of the scrotum, seeming to rest on it rather than to be imbedded in the skin. Some of them were covered by a slightly thickened horny layer, under which minute dark-red points could be seen, which gave the tumors a wartylike appearance.

Composite lesions were formed by the union of two or more of the smaller ones, which, however, preserved all the characteristics of the original growths. No pain, pruritus, or other subjective sensations were complained of by the patient. Puncture of the tumors with a needle was followed by slight hemorrhage.

In the cases heretofore reported the eruption has been, with few exceptions, confined to the extremities.

Dr. Zeisler's case* presented, in addition to characteristic lesions on the hands and feet, nævuslike patches and pedunculated vascular tumors on the forearms, over the patellæ, the legs, thighs, and auricles.

It is probable that the same pathological condition produced the vascular dilatation in these various localities, the hypertrophy of the epidermis covering the lesions on the extremities being favored by the anatomical condition of the parts and exposed position of the vascular tumors.

The presence of patches of vitiligo in Dr. Zeisler's case and my own, while probably a coincidence only, is yet worthy of notice. In most of the cases reported chilblains preceded the appearance of the angiomatous tumors, and the damaged state of the blood-vessels is

* *Transactions of the American Dermatological Association*, Seventeenth Annual Meeting, 1893.

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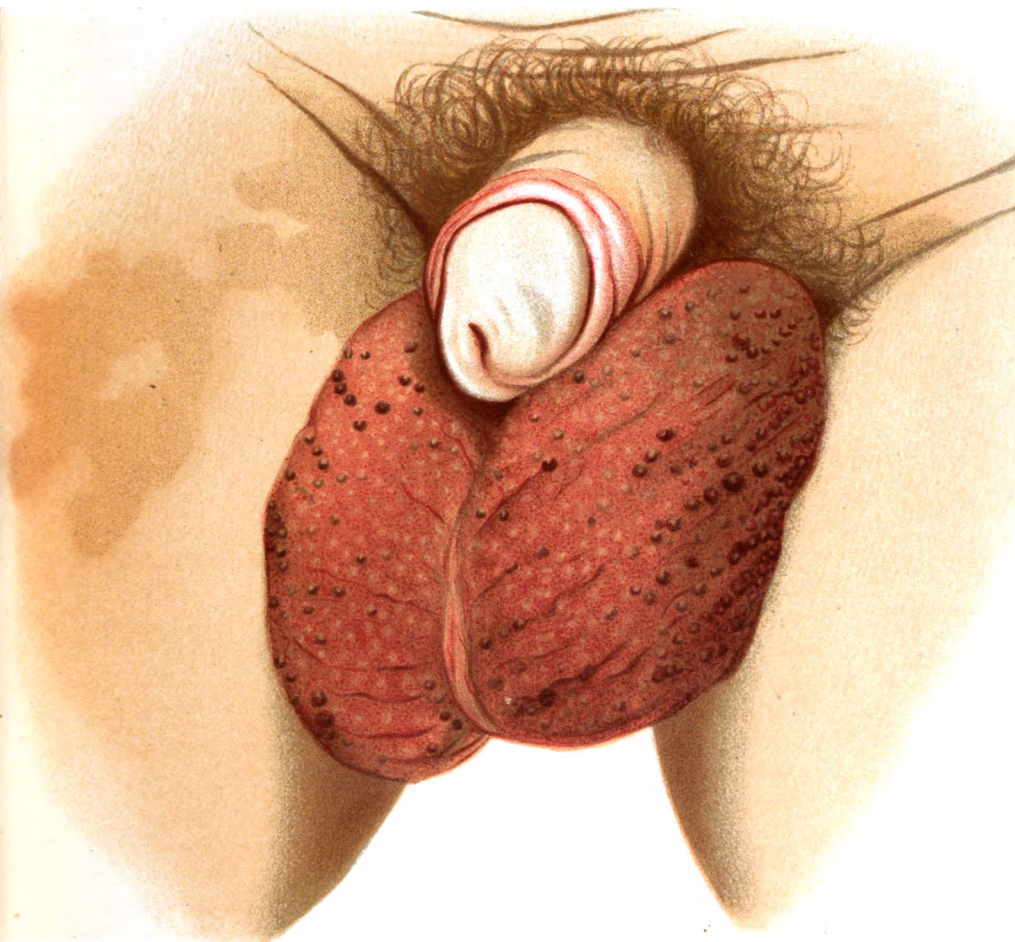

DR. POLLITZER'S CASE OF
ANGIOKERATOMA OF THE SCROTUM.

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looked upon as a strong predisposing factor to their development; the localization of the affection on the hands and feet is therefore readily explained.

The unusual site of the affection on the scrotum in my case demands a careful study of the histological appearances, and a comparison with the minute structure of the cases which have occurred in typical localities. The usual ætiological factor, chilblains, can not, of course, be invoked to explain the occurrence of the localized vascular tumors on the scrotum. The tendency to dilatation of the blood-vessels as manifested by the double varicocele, and the degenerative state of the vessels and surrounding connective tissue incident to old age, were probably the most potent causes in bringing about the condition in question.

The dilatation of the capillary vessels is looked upon by all who have studied the affection as the primary and essential condition, the change in the epidermis being of a secondary nature.

If we adopt this view, which is doubtless the true one, any dilatation of the papillary loops should in time be followed by thickening of the epidermis and the other anatomical changes which are found in this affection.

Mibelli* gave the first anatomical description of the condition found in this affection, and proposed the name "angiokeratoma" for the disease. The lesions which formed the basis of his observation occurred on the dorsal surface of the fingers of a fourteen-year old girl and had existed for several years. They were preceded by chilblains.

The stratum corneum was so much thickened in this case that the gross appearances of many of the lesions suggested the diagnosis of keratoma. The name proposed by Mibelli is a very appropriate one, as it accurately indicates the pathological condition which exists.

Before Mibelli's careful investigation, cases of the same affection had been noted by other writers under various names; the true character of the lesions had not, however, been determined.

Cottle † seems to have made the first observation regarding the disease. Crocker ‡ refers to a case which he described in the first edition of his text-book under the heading of Verruca, a further history of which he gives in the *British Journal of Dermatology* for 1891.

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* *Giornale italiano delle mal. ven. e della pelle.* Fasc. iii, September, 1889. *Internal. Atlas of Rare Skin Diseases*, No. II, 1889.

† *St. George's Hospital Reports*, vol. ix, 1877–'78, p. 758. Quoted by Crocker.

‡ *Diseases of the Skin*, second edition, 1893.

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Colcott Fox * described a number of cases of the disease in 1886 and in 1889; in the latter year, under the name of Cases of Lymphangiectasis of the Hands and Feet in Children. Since the publication of Mibelli and Pringle's articles he admits the inaccuracy of his observation regarding the histology of the lesions, and agrees fully with these investigators regarding the morbid changes and the name proposed. Dubreuilh † described the disease under the title of Telangiectatic Wart. This case is in every way a typical one, the patient affected being a young girl who had previously suffered with chilblains.

We are indebted to Pringle's‡ article for a most accurate and painstaking description of the clinical appearances and morbid anatomy of the affection, as well as for an analysis of most of the cases which had been met with up to the time of its publication.

Pringle reported two cases affecting girls with chilblains, and his histological description agrees in all essential points with that previously made by Mibelli.

Since the publication of this article cases have been reported by Audry and Deydier,§ Brocq,‖ Thibierge,¶ Joseph,** Tommasoli,†† Renault,‡‡ and others, in addition to which several instances of the disease have been observed but not published.

Histology.—For microscopic study a number of tumors of various sizes were excised from the scrotum, hardened in absolute alcohol, and stained with different coloring agents.

A section through two small tumors situated side by side is shown under a low power in Fig. 1 (plate).

Two cavernous spaces containing blood are seen directly beneath the epidermis, divided by irregular septa and bounded on all sides, with the exception of the low portion of one of them, by epidermic cells.

Directly above the lacunar dilatation the rete layer is thinned as if from pressure of the distending cavity, while the stratum corneum is shown somewhat hypertrophied. At the lateral margins the rete mucosum is considerably hypertrophied, which is more evident in Fig. 2 (plate), representing a single tumor entirely surrounded by the proliferated rete layer.

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* These cases are referred to at length in Pringle's article on Angiokeratoma, *British Journal of Dermatology*, 1891.

† *Annales de la Polyclinique de Bordeaux*, 1889.

‡ *British Journal of Dermatology*, 1891.

§ *Lyon méd.*, 1892. *Ann. de dermat. et de syph.*, 1893, p. 881.

‖ *Ann. de dermat. et de syph.*, 1892, p. 819.

¶ *Ann. de dermat. et de syph.*, 1892, p. 1139.

** *Berl. Klin. Woch.*, 1892, p. 493. *Dermat. Zeitschrift*, 1894, p. 16.

†† *Commentario clinico delle malattie cutanee e genito-urinarie*, 1893.

‡‡ *Ann. de dermat. et de syph.*, 1894, p. 1248.

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FIG. 1.—Section through two adjacent tumors.
Spencer 1 in. *Zeiss* projection ocular 2. × 50.

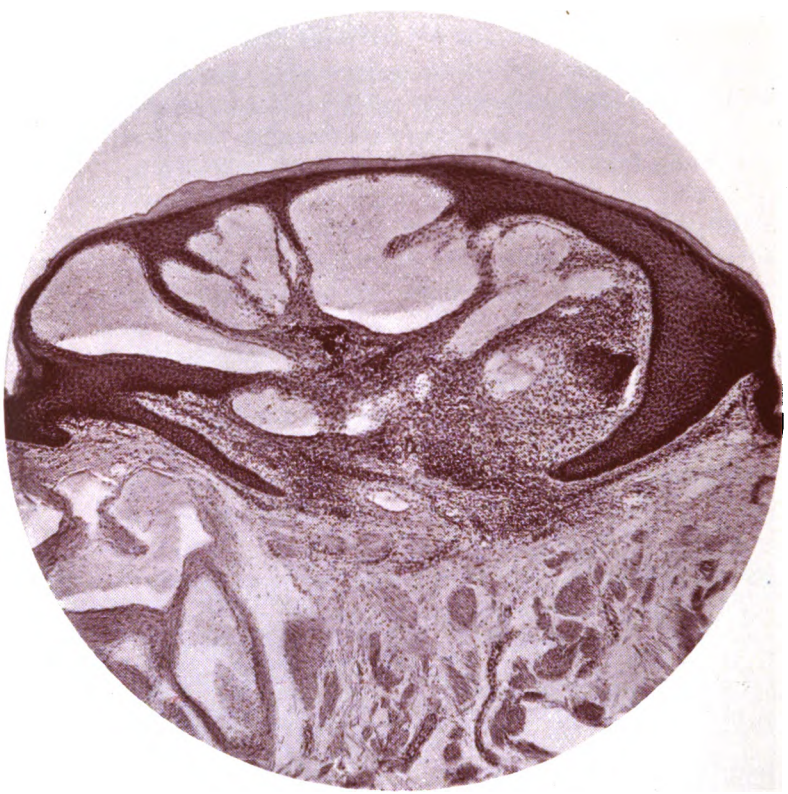

FIG. 3.—Section through larger tumor, showing papillary vascular dilatation and hypertrophy of the rete Malpighii.
Spencer 1 in. *Zeiss* projection ocular 2. × 50.

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FIG. 2.—Section through small tumor completely inclosed by the hypertrophied rete Malpighii.
Spencer 1 in. Ocular 1¼ in. × 60.

FIG. 4.—Section through larger tumor, showing cavernous spaces divided by septa and containing organized blood clots.
Spencer 1 in. Ocular 1¼. × 75.

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At the right of the blood cavity the thickened rete is well shown.

The cavernous spaces are filled with red and white blood-corpuscles in normal proportions, and under a low power their lining membrane seems to be made up of epithelial cells.

With high amplification, however, they are found to be lined with a greatly distended connective-tissue layer which separates the blood from the epidermis. In certain sections blood spaces are found to exist in the epidermis, surrounded only by disintegrated epithelium, as if the blood had penetrated between the cells and produced the cavities in question by a destructive action on the epidermis rather than by stimulating the growth of the rete layer, as seems to be the case in the formation of most of the cavernous spaces.

Beneath the lower margin of the proliferated rete a round-celled infiltration is present, which is distinctly shown in Figs. 1, 2 and 3 (plate).

Blood pigment is intermingled with the cell infiltration, and there is some indication of fibroid tissue formation about some of the subpapillary blood vessels. There is also to be observed in this area a considerable vascular dilatation of the same character as shown in the papillary region (Figs. 3 and 4, plate).

Figures 3 and 4 represent sections through larger tumors, the cavernous blood spaces being more distinctly shown, as is also the elevation of the tumors above the level of the skin.

The lower border of these tumors is not completely encircled by the hypertrophied and proliferating rete Malpighii, being formed by the subpapillary portion of the derma in which are seen greatly dilated blood spaces.

On the right of Fig. 4 a large cavernous space is seen to be filled with blood-corpuscles, which have by pressure caused a marked atrophy of the epidermis.

On the left of this section the circulation has been obliterated, as the lacunæ are occupied by concentric layers of fibrin containing blood-corpuscles and pigment.

Fig. 5 represents a more enlarged view of the cavernous spaces with their dividing septa. The stratum corneum is also shown to be considerably thickened.

An examination of the sections shows that the lesions consist of lacunar spaces filled with blood occupying the papillary portion of the derma, some of which are inclosed in the rete Malpighii. These cavernous spaces are evidently the essential feature of the disease, and are probably the primary pathological condition.

It is the opinion of Mibelli and Pringle that these lacunar dilatations result from changes in the papillary vessels, gradually brought about

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by repeated attacks of chilblains which impair the contractility of their walls and cause permanent telangiectases.

While in my case such a cause had not been present, it is not unreasonable to suppose that the tendency to vascular dilatation, and the impairment of the normal connective-tissue support to the vascular walls which was shown in a marked atrophy of the scrotal tissues, were the active agents in bringing about the condition described.

FIG. 5.—Spencer, half inch. Projection ocular 2 Zeiss. x 175. Cavernous space filled with blood corpuscles and divided by fibrous septa. Hypertrophy of the stratum corneum and rete Malpighii.

It is the opinion of both the gentlemen formerly quoted that the primary pathological change is vascular and the altered appearance of the epidermis is a secondary phenomenon.

My own sections would lead me to coincide in this view and also in Pringle's hypothesis that the blood spaces in the rete Malpighii are

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caused by a downgrowth of the cells of this layer, producing a constriction of the terminal loops and their resulting distention.

My case differs from those previously reported in the peculiar localization of the tumors, the absence of chilblains as a cause, and in the minor grade of keratosis.

When we compare the normal thickness of the horny layer over the hands with that on the scrotum, the discrepancy can readily be explained. In all the essential histological features, viz, the presence of blood spaces in the epidermis and papillary region, the proliferation of the rete Malpighii and in the presence of an inflammatory infiltration in the derma, it corresponds very closely with the classical cases reported by Mibelli and Pringle.

The tumors have been successfully treated by electrolytic puncture with the negative needle and by the galvano-cautery.

Raynaud's Disease of the Ears.

The patient, a male, aged thirty-nine, was first seen in March of the present year (1895). His habits and family history are good. He is able to do physical work, and does not suffer with headaches. He describes a venereal sore eight years ago, which he states was followed by loss of hair, sore mouth, and sores on his legs. He also had some affection of the eyes after his venereal infection.

Had gonorrhœa thirteen years ago, and again five years ago, both of which attacks were followed by rheumatism in the wrist and small joints of the fingers. He has never suffered in a marked degree with cold hands or feet.

His present trouble began in August, 1894, on a warm day.

The ears at this time became cold and blue, and remained so for a period of several hours. They then gradually resumed their normal color. Such attacks were frequent until January, 1895, when that portion of the auricle shown in the illustration assumed a permanent bluish-black color, which persisted up to the time he came under my observation in March of the present year. He states that the ears feel numb and cold, and that a burning pain is frequently present in them.

Present Condition.—The colored illustrations which I show will give a better idea of the symmetrical location of the affection than any description could accomplish. (Illustrations shown at the meeting.)

Both ears were distinctly cold, and of a purplish-blue color for some distance around the seat of the gangrene.

The gangrenous area had formed at the junction of the upper and middle thirds of the auricle, and occupied a surface about half an inch

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in diameter (see cut). It was bluish-black in color, dry, and without odor or suppuration.

On scraping it, the disease tissue could be readily removed, and appeared more like coagulated blood than like a sloughing mass.

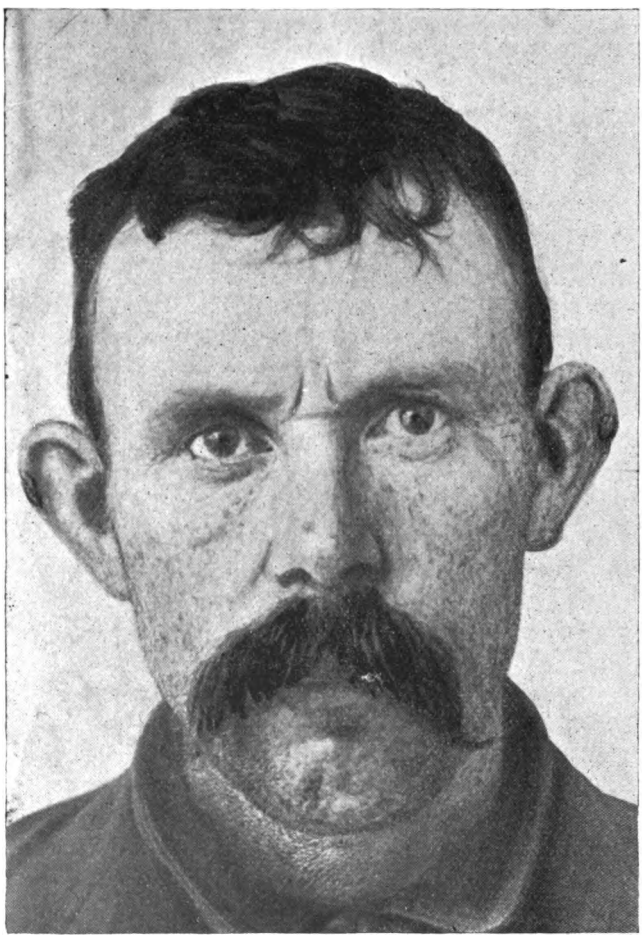

Fig. 6.—Raynaud's disease of the ears; showing the gangrenous areas.

Little or no pain was produced by attempting to remove the dead tissue. The purplish color extended for a considerable distance around the imperfect line of demarcation.

Both eyes showed the scars of an interstitial keratitis which the patient refers to the syphilis of eight years ago.

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The patient was given no internal medicine; he was directed to use a simple ointment and report at the clinic within a week.

He was not seen again until August 30th, when no trace of the disease was found except superficial cicatrices on the ears, the scar on the left side being more noticeable than on the right.

The interest of the case, aside from the somewhat unusual site of the gangrene, lies in the possible ætiological relationship of syphilis to the local disease.

The interest of this case is strengthened by the observation recently made by an English surgeon, Mr. Wherry (*Clinical Sketches*, August, 1895), of the occurrence of Raynaud's disease of the fingers, toes and ears in a fourteen-year-old boy, the subject of hereditary syphilis, who also presented the scars of an interstitial keratitis.

The implication of the arterial coats in both early and late syphilis leading to lessened and obstructed blood supply, is doubtless responsible for many of the cases of Raynaud's disease in patients with syphilitic disease. When in addition to this obstructive endarteritis there is an added element of vascular spasm due to cold or other causes, all the conditions necessary to bring about the localized gangrene are present.

It is not the intention of the writer to enter into a consideration of the ætiology of Raynaud's disease, which is doubtless the result of many conditions, and may be due in certain instances to a vascular spasm, pure and simple, brought about through disturbance of the central or peripheral vaso-motor apparatus.

Lupus Erythematosus Disseminatus disappearing during Pregnancy.

Mrs. F., aged twenty-five, married eight months. Six months pregnant. Has always enjoyed good health. No skin disease before the present one. She had an erythematous eruption on the face for some months before her marriage, which was attended by marked pruritus.

On the hands and arms the affection first appeared, two months after her marriage, at the beginning of her pregnancy.

Examination shows a general hyperæmia of the face, uniform in character, which is free from any evidence of atrophy, except at the margins of the erythema, below the ears, and on the neck. Even here the cicatrical depression is so slight as to escape notice, except on very careful examination.

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There are no spots on the scalp, and none on the body, except those shown in the colored drawings. (Drawings shown at meeting.)

On the backs of the hands and forearms the eruption is symmetrical, showing distinct atrophy of the skin in the larger patches, and to a less extent in some of the smaller ones. The edges of the patches show very slight infiltration and no scaling. The entire process impresses one as a mild type of hyperæmia, which has resulted in slight atrophy of the central parts of the lesions.

The patient was examined again shortly before these notes were taken, when almost at term. At this time all evidence of the disease had disappeared, except the atrophied spots, which were surrounded by a pigmented zone.

In this connection I recall the case of a woman in the South whose husband wrote me in regard to the treatment of his wife for a lupus erythematosus of the face. He stated that the eruption had entirely disappeared during a recent pregnancy, but had recurred in a form equally severe after her confinement.

DISCUSSION.

Dr. Bowen complimented Dr. Fordyce on the excellence of his photographs.

Dr. White did not think the keratomatous element here is very marked. He would like to ask if the angiomatous element were absent, would the keratomatous changes be sufficiently pronounced to warrant the name.

Dr. Fordyce said he should not have called it angiokeratoma if the angiomatous condition had not led to marked changes in the epidermis. The condition is not an angioma in the sense of newly-formed blood-vessels, but rather a dilatation of the existing papillary vessels. The changes in the stratum corneum are not marked, but those in the rete are.

Dr. Morrow said that when Dr. Fordyce was kind enough to show him the picture of the case of angiokeratoma some time ago he remarked to him he had had two cases clinically identical with this case within the last twelve months. In one case the lesions were confined to the scrotum; in the other there were numerous lesions scattered over the trunk in addition to the angiomata of the scrotum. He regarded them as cases of simple angiomata. There was microscopical examination made after hearing the results of Dr. Fordyce's microscopical investigations; he coincides with his view that the lesions should be designated as angiokeratoma.

Dr. Zeisler: When he reported the case of angiokeratoma mentioned by Dr. Fordyce, he expressed at the time his opinion that the clinical picture of this disease was not yet entirely completed. At least it was not so from the reports of Mibelli and other first

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observers. It is very natural that in what we may call a new disease, additional features may be afterwards discovered.

It does not seem to him unreasonable that the scrotum should be the seat of keratoma. He believes it may be seen often in cases of varicocele wherever the element which favors stagnation of the blood exists, which is one etiological factor for the production of angiokeratoma. It is somewhat similar to the varices on the legs. The horny layer is so enormously enlarged in every typical case of keratoma that he believes it to be an essential factor. If he compares his own case with that of Dr. Fordyce, he thinks in his case the horny layer was five or six times as large. Of the fact that the clinical picture of angiokeratoma is by no means complete, he had another instance within the last two weeks. An old man about sixty-seven years called at his clinic. On the first occasion he did not make any attempt at a diagnosis; the lesions were on various parts of the body, on the extremities as well as the trunk. They were flat and somewhat elongated angiectoses. During the last few days he examined the soles of the feet, and on one sole he found two distinct angiokeratomas corresponding very distinctly with what he had seen before. There was no evidence in this case of the previous existence of angioma. Keratoma should be the essential feature in angiokeratoma, otherwise the title is not entirely appropriate.

Dr. Hyde was much interested in the paper, and wished to join Dr. Bowen in congratulating Dr. Fordyce on the excellence of the two photographs. He wished to know if there was any linear arrangement of the lesions on the scrotum, and whether there was any reason to suppose any relation existed between the vitiligo present and the distribution of the lesions on the scrotum.

Dr. Shepherd: Is there any difference between this and the ordinary varicosity without the keratoma? He had seen a good many cases of varicocele, and in a large proportion of them he had noticed this enormous vascularty of the skin of the scrotum, the veins of which seemed to be generally dilated.

Dr. Zeisler agrees with Dr. Shepherd in thinking that angiokeratoma is a distinct varix; the former name is only used because of the keratotic changes usually found.

Dr. Fordyce said that the criticisms of Dr. White and Dr. Zeisler were to a certain extent justified. We would not, however, expect to find such marked hypertrophy of the horny layer in lesions of the scrotum as on the hands, where the stratum corneum is anatomically so much thicker. In his case the existence of blood spaces in the epidermis, together with marked hypertrophy of the rete, corresponded closely with the description given by Mibelli and Pringle. The keratomatous changes were to be considered secondary.

Dr. Robinson wished to know if the granular condition also existed.

Dr. Zeisler would like to see this title included in our nomenclature.

Dr. Bronson wished to know if there was sufficient reason to include the second case reported, under the same name as Raynaud's

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disease. In the latter, the clinical picture is somewhat fuller, the disease a more general one. Of course, Raynaud's cases were not all confined to the extremities. The speaker had seen cases of gangrene about the face which were unaccountable; but in these he always looked for a trace of syphilis. It seemed to him not at all improbable in this case that some neuropathic disease originating in syphilis has been the cause of the trouble, and that it was not necessarily Raynaud's disease.

Dr. White: With regard to the localities here affected, he thinks these do not preclude the idea of Raynaud's disease. He had seen a case of this disease affecting the fingers, and precisely this locality in both ears. He, however, had never seen any such affection of the ears alone.

Dr. Sherwell: In most of the cases of Raynaud's disease which had come under his observation, a history of syphilis was present. He mentioned a very distinct and typical case which recovered under anti-syphilitic treatment, but where the disease recurs from time to time, especially during the colder months. Local anæsthesia and a tendency to gangrene on the tips of the finger existed, and was aggravated by the cold, and at times the ears were disposed to similar phenomena.

Dr. Fordyce: Raynaud's original monograph did not discuss the pathological, but simply the clinical aspect of the cases. In his case there were probably changes in the arterial coats; there were many cases of the disease reported by Raynaud himself, in which the extremities were free from gangrene. Raynaud's disease, in fact, is a general term including endarteritis and many other pathological conditions.

Dr. Hyde: My first suspicion that possibly the forms of lupus erythematosus, or the conditions to which we apply that name, are not so nearly allied as was once believed, was suggested to my mind by a case of what I diagnosed as lupus erythematosus, and in which the clinical symptoms appeared to be perfectly typical of lupus of the face. There was the characteristic butterfly's wing on each side of the nose. The patient was a woman, and I remember being somewhat surprised at the rapidity with which the disease seemed to disappear under simple treatment. (I cannot now recall what that treatment was). Almost immediately after the disappearance of these lesions on the face a typical lichen planus developed itself over the upper extremities and spread so extensively that before I was through with the patient a serious and annoying case of lichen planus developed, which finally disappeared without recurrence of the lesions on the face, which had seemed to me on first sight, as I said, to be those of a typical lupus erythematosus. I remember I made the remark when we were in Milwaukee and Dr. Crocker read his paper on this subject that we must enlarge the field to which we have been applying the title lupus erythematosus without the recurrence on the face of the lesions which had seemed to me on first sight as I said, to be a typical lupus erythematosus.

Dr. Fordyce agreed with Dr. Hyde and thought that many different conditions were included under the head of lupus erythematosus.

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The clinical forms classed under this head are many and different. The infiltration in some is quite soft, in others quite hard; some appear to be mere localized hyperæmias; some cases disappear spontaneously, some under carbolic acid applied locally and others fail to disappear at all.

DR. GRAHAM, of Toronto, read his paper on

HYDROA ÆSTIVALE.

The following two cases of this somewhat rare affection are contributed simply with the object of adding to the small number already published.

Case I.—A. B., child, aged six, came under my observation in the early part of the summer of 1880, fifteen years ago, when the following notes were taken:

The patient, a native of Quebec, had always lived in Canada, and for the last four years and a half had resided in Chatham, in the western part of Ontario, a district in which at that time malaria prevailed.

There is nothing of note in the family history more than that the children do not seem to have been robust. Four out of seven died in early life from various diseases. The mother had one miscarriage three years before the birth of this child. There is no history of syphilis. Two years ago, in April, 1878, some small red spots appeared on the face, and a few on the hands. About a week after their appearance the patient was attacked by diphtheria, and while confined to the house the spots faded away without leaving any scars. Similar spots appeared in June, after she commenced to go outside. They grew larger, became vesicular and then pustular, attaining their full size in two or three days, when a dark spot appeared in the center of each, after which a scab formed over the whole surface. These dried up and fell off in a few days. The whole duration of each crop of vesicles was about nine or ten days. During the summer successive crops of this eruption appeared, which in many instances left permanent cicatrices.

In every instance the attack followed exposure either to the direct or reflected rays of the sun. In the autumn of 1878 the eruption disappeared altogether; but in the latter part of the winter of 1878–'79, after driving on a bright day, when the snow was on the ground, her face was again affected. In the spring of 1879 spots appeared first on the face, on the part not protected by her winter hood. When she ceased wearing the hood more of the face became affected. While wearing gloves the hands were not affected, but became so when she

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left them off. The wrists, which were covered for a time after she ceased wearing gloves, were attacked when she left off her cloak, which by its long sleeves had afforded protection. She experienced a slight burning sensation when the rash appeared, but it was not itchy at any time. She had scarlatina in the winter of 1879–'80. This had no special effect on the eruption, except that it faded away during confinement to the house, as it always does when she is not exposed to the sun's rays. She has constantly worn a glove on her left hand since May 1st, or four weeks, and no fresh spots have appeared on the hand during that time. The eruption is less marked in the winter, partly because she is kept more in the house, and partly, her mother thinks, because the rays of the sun in winter do not seem to have quite the same effect as in summer. It always appears if she goes out, if the sun is shining, and sometimes after sitting at an open window if a warm wind is blowing, although the sun's rays do not shine directly on her. No effect is produced on a dark, cloudy day.

Patient had an attack of ague some weeks ago, and has now some symptoms of that disease. Her appetite is fairly good. She is fond of acids, especially vinegar.

Present Condition.—A copious eruption is present on the face, ears, and right hand. On the face it consists for the most part of lesions, ordinarly about the size of a ten-cent piece, a few even larger. Some are umbilicated, and resemble smallpox pustules ; others are covered with scabs, while very superficial cicatrices are found in situations where scabs had previously existed. The nose is swollen, and presents the same appearance as the face. The lips are much swollen, and covered with large pustules, which are elongated, extending along the margin. There is more or less general swelling of the face. The patient was vaccinated when eight years old, and the vesicles were a long time healing.

Nearly every form of application seemed to aggravate the disease. During the past winter, even when she remained constantly in the house, small spots appeared occasionally. These, however, did not become vesicular, and soon faded away.

In August of 1879 she was taken to Snowden, in the woods, where she lived in a log house. Her general health was better, but the eruption remained unchanged. The patient was seen several times in the summer of 1880, and various applications were used without any good results. She then passed from my observation, and nothing more was heard of her until this summer. I learned from her friends that her condition remained the same until the thirteenth year, when menstruation commenced. From that time until the eighteenth year the

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eruption gradually disappeared, and at the latter age it ceased entirely. During that time a thin gauze veil seemed quite sufficient to protect the face from the rays of the sun. Since the eighteenth year her health has been remarkably good in every way.

Case II.—C. D., female, aged twenty-five, a blonde. Notes taken in August, 1895. When ten years of age the patient had a chronic swelling of the left knee joint, probably of tubercular character. The limb was on this account amputated. Although not strong, her health has been good since the operation. The parents remember that previous to the amputation an eruption appeared on the face and hands. The patient, however, dates the commencement of her trouble at a period fourteen years ago, when she was eleven years of age, and it has steadily continued since that time until this summer. For the last two months it has been much better, and at the present time her face is quite free from eruption. The phenomena during the fourteen years have changed very little, and were described as follows: When she was exposed to the sun's rays for about twenty minutes or half an hour she noticed a burning sensation on the unprotected parts of the body. This would soon be followed by extreme swelling and the formation of small water blisters. These in two or three days would become yellow, and the scales would form on the surface. These were not thick, and would speedily dry up and fall off, leaving a congested surface which would soon return to the normal condition. The pustules, so far as I could learn, were never umbilicated. The crops of pustules varied in duration according to the severity of the attack. The process in some attacks did not last longer than eight or ten days, whereas at other times it lasted two or three weeks. The swelling was greater on some occasions than others, sometimes almost closing the eyes and producing a good deal of deformity of the features. The attacks were accompanied by general *malaise*, coryza, sleeplessness, and anorexia.

The eruption will occur on any part of the body exposed to the sun. On one occasion she had a very light covering on the legs and thighs, and an eruption appeared on these parts after a short exposure. It occurs in the winter just as in the summer if the sun is shining. If she sits near a window the eruption will appear even if the sun is not shining directly on her. She is of the opinion that a very cold wind in winter would have the same effect, but she is not certain, and she could not give any instance in which the eruption had come out after such exposure. A sufficiently thick veil always prevents the action of the sun. She is afraid to go out even on a cloudy day, and has been kept almost a prisoner in the house for the last fourteen years,

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at least during the summer, only going out in the evening after the sun had gone down.

Dr. Phillips, who has had charge of the case for the last three or four months, kindly gave me the following description of the eruption from notes he took at the time :

When he first saw the patient, in April last, the hands presented a thick, hard, dry, and fissured skin, with a few vesicles. The face and ears were covered by thick scabs beneath which existed a sero-purulent discharge. The presence of vesicles and some infiltration gave the parts the appearance of a chronic eczema. The thickened skin was removed by resorcin ointment and by Unna's plaster of salicylic acid and creosote. In two weeks the parts had resumed their normal condition. Dr. Phillips, who had recently spent some time in London and had seen Hutchinson's case, at once made the diagnosis of hydroa of Bazin.

In the month of May a relapse occurred. When seen by the doctor the day after exposure, the backs of the hands, fingers, and wrists, and one side of the face, presented an erythematous, swollen appearance. The surface of the wrist was closely packed with vesicles about the size of a grain of wheat, filled with a sero-purulent fluid. A week later the vesicles had disappeared, leaving scabs and crusts situated on a thickened and reddened integument. The skin afterward was fissured and scaly. Under the same treatment as before described all evidence of the eruption passed away. As previously stated, when I saw her in August the skin was quite normal, except that there seemed to be an absence of pigment over small patches, and the eyebrows have to a great extent disappeared.

It is quite evident from the description of these cases, as well as from those given by Unna, that the eruption is not always of a vacciniform character, and that therefore the term hydroa vacciniforme does not apply to all cases. In the first one, just described, the vacciniform appearance was quite striking ; whereas in the second, a case in all respects similar, the eruption was of a vesicular and bullous character. The term hydroa puerorum, adopted by Unna, is also inappropriate, as my first, a case of typical hydroa vacciniforme, occurred in a girl. In the great majority the patients have been boys, but some cases of females have been recorded. Berliner describes a case in a female, twenty-three years of age, who had suffered from the disease for nineteen years. The case described by Veiel under the heading of eczema solare, a female fifty-six years of age, and the one given by Unna, were, so far at least as the ætiology is concerned, identical with those described by me. Boeck gives the

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case of a female, twenty-seven years of age, in whom the eruption had existed two years. Von Dort's and Burri's cases were also females. It would appear that, as a rule, the condition is found in females later in life than in males. It is also more eczematous in nature and less likely to leave scars. The persistent character which the affection sometimes possesses is illustrated by the second case, as also by those recorded by Veiel and Unna. I have adopted the term hydroa æstivale. The direct rays of the sun are not the only cause, as it may arise from the heated atmosphere of a room when the sun is shining. My second patient knew by experience exactly how near she could sit to an open window with safety, and then there was much greater danger when the window was open than when it was closed. There was no evidence in either case that cold winds in winter would produce the eruption, although the patient was under the impression that they might. The heat from a stove had no effect in either case.

Berliner includes the cases which we are now discussing, with those of the summer prurigo of Hutchinson, under the head eruptio æstivale, and makes two divisions: eruptio æstivalis pruriginosa and eruptio æstivalis bullosa. The two classes of cases seem to me to be too unlike to be placed under the one head.

The majority of writers upon the subject attribute the cause of the eruption to the action of the chemical rays upon the skin. Widmark concludes from his experiments that the ultra-violet rays act with great intensity on the surface of the body.

The difference between the effect produced by the sun's rays in the summer and in the winter in these cases would lead me to believe that their action is not altogether due to the ultra-violet rays, and that the heat rays play also an important part. In my second case the electric light had no effect, although in it the chemical rays predominate. The exclusion of the ultra-violet rays has been accomplished in two or three ways by Unna—by the application of tannate of silica, by a watery solution of bisulphide of quinine and glycerin, and by curcuma—but the results do not seem to have been very satisfactory. The question arises, How do the rays of the sun produce such deep lesions in so short a time? The process can not easily be explained by direct action on the tissues without the aid of the vaso-motor nerves. The inflammation, then, is probably of a reflex character. Whether any toxin exists in the tissues or not has not been proved.

After reading the description of the recorded cases one arrives at the conclusion that in a very few individuals the sun's rays produce a dermatitis varying in intensity, and accompanied by an eruption which

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may be vesicular, bullous, or vacciniform. The amount of necrosis and subsequent cicatrization will depend on the vulnerability of the tissues and the amount of exposure.

The second patient, E. F., was very careful not to leave the house when the sun was shining, and this no doubt partly accounted for the absence of cicatrization. The tendency to this form of inflammation does not seem to be hereditary. I have not met with a single instance of its having occurred in more than one member of a family, differing in this respect from xeroderma pigmentosum.

The indications for treatment are twofold: (1) To restore to the tissues that power of resistance which exists in ordinary conditions; (2) so to protect the skin that those rays which would act injuriously are absorbed. In my first case I tried various alteratives without benefit, and internal medication seems to have had very little effect, so far as one can judge from the experience of others.

The protective agents which I have used seemed to irritate the skin, and had not the desired effect of preventing an eruption. A covering which would exclude the light altogether, or almost altogether, was always effectual.

DISCUSSION.

Dr. Zeisler was not unfamiliar with the clinical picture of this disease. He believed that exposure to the sun was an etiological factor in every case. He had seen two cases lately. One a young gentleman, aged nineteen years, was first attacked after exposure to the sun while horseback riding. The eruption occurred on the back of his hands, ears and face; and it recurred after an interval of a few weeks. Since that time he has been advised as to the dangers of exposure. His second case treated this summer, also that of a young gentleman. He did not see the necessity of calling these cases any form of hydroa; thought it was a little bit forced to put these cases together under a new title. He considered them simply a form of erythema multiforme. He always diagnosticated it as such although perfectly conscious of the fact that such cases are called hydroa. He did not see a great difference between certain forms of erythema and this disease. As far as the treatment is concerned, about which Dr. Graham spoke, he would suggest that in his next case the doctor should try atropine. The speaker's cases improved rapidly under small doses of this drug. In the local treatment he carefully avoided ointments, contenting himself with cooling lotions, etc.

Dr. White thinks we do find cases which correspond accurately to the type of the vacciniform lesion. Frequently we find so many other forms of dermatitis arising from exposure to the sun and weather—single cases and recurrent cases—that he is not inclined to regard this as a specific individual affection. When it does recur the

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type is not always absolutely the same in successive attacks. He thinks that certain cases of dermatitis multiform is in children, and described as such by some writers, are typical of this disease. As Dr. Zeisler remarked, we do see some forms of erythema multiforme simulating very closely this disease, but the speaker does not regard those attacks which are due to the weather as of that character at all. He recognizes a marked difference between them and the disease which he calls erythema multiforme.

Dr. Bowen said that he was especially interested in Dr. Graham's paper, as he had recently reported the first case of hydroa vacciniforme in which an histological examination of the lesions had been made. He thought that Dr. Graham's first case was a typical one of hydroa vacciniforme, while the second case was open to more doubt, and opened the question whether there may be abortive forms of this disease. In the case reported by the speaker, the microscopical examination had shown that the process was an inflammation of the epidermis and corium in a circumscribed area, which is followed rapidly by a necrosis. The umbilication is a significant feature, as it is only in lesions in which we find a central necrosis that we observe umbilicated vesicles or pustules, as in variola, vaccinia, acne necrotia, probably varicella, etc. The speaker wished to protest strongly against confounding this affection with erythema multiforme, which was totally dissimilar. Erythema multiforme is never accompanied by necrosis, umbilication and scarring, as is always the case in the pure types of hydroa vacciniforme. In the speaker's case the patient looked exactly as if he had had smallpox, so great was the amount of scarring.

Dr. Hartzell some years ago had a case of this kind in a boy of fourteen years, who every summer suffered from inflammation of the skin of considerable violence. There were no vesicular or pustular lesions. A marked hyperæmia, which was in time followed by exfoliation of the skin, appeared upon the face and hands, not necessarily following exposure to the direct rays of the sun, but beginning with the warm weather and continued throughout the summer. A very tender condition of the skin showed that some inflammation of that part existed, due, no doubt, to the same cause as in the cases reported.

As he understood it, the difference between his case and the one reported was simply a difference in the degree of inflammation, the latter not being sufficient in his case to cause the formation of vesicles or pustules.

Dr. Phillips (by invitation) said he had nothing to add to the clinical picture. The disease had shown some tendency to recur since Dr. Graham saw it. Speaker's treatment had been altogether external. He contented himself with local applications, largely ointments, which, when he detected a tendency to recurrence, he made soothing and protecting. He had thus obtained satisfactory results. His use of protective treatment was original, so far as he was concerned, although he has since learned that Dr. Unna had previously employed this method. Dr. Graham had proposed some sort of covering or veil for the parts. It then suggested itself to him to lessen the irritation of the violet rays. He proposed a bassorin paste with a solution of

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the bisulphide of quinine. He had also thought of trying an addition of the bisulphide, the enveloping of the skin in some yellow covering which would annihilate the blue indigo or violet rays of the spectrum. He hopes by these experiments to throw some light upon the subject as to whether the condition is really the result of the chemical rays or not. The patient herself asserts that electric light has no effect, but the speaker was not disposed to attach much importance to her statement, as she is so very careful in protecting herself that he doubts if she had ever been exposed to a strong electric light, and he does not see why a strong electric light should not have the same effect as sunlight.

Dr. Jackson mentioned the case of an Irish boy, age ten years, who has had this eruption since he was three or four years old. The face, hands, and ears were affected, but especially the face. When the active lesions had subsided the pitted scars were very distinct. Although present in summer, he seemed to suffer more in winter, especially on bright, windy days. This bears out the experience of Bowles, who investigated and wrote of the dermatitis calorica which occurs in Alpine climbers. He found that the effect came largely from the reflection of the sun's rays from the snow, not from the heat. He found that if the climbers applied to their faces brown grease paint similar to that used by actors, they enjoyed immunity.

Dr. Shepherd had seen within the past two weeks a girl of nineteen who had suffered from this affection for three years. She came to the office all bound up in shawls. Her face was inflamed, swollen and covered with bullous lesions. She attributed this present attack to driving and walking in the open air. It did not come on after an ordinary walk, but after extraordinary ones, which she was fond of taking. Although the face, mouth and nose were enormously swollen and covered with bullae, her ears were the only parts which showed scarring. She said that if exposed she would have recurrent attacks every two or three weeks, some mild, some severe.

Dr. Allen had observed bullous eruptions following direct or indirect exposure to the sun, and more recently since reading accounts of experiments upon the effect of the chemical part of the spectrum, he had accepted this as the explanation. As a consequence it seemed to him that the protective method of treatment is the only reasonable one. The case referred to by Dr. Jackson he knew well, as the patient was a newsboy who sold papers near his corner, and he had observed that sometimes he is nearly well, and sometimes pretty badly off. He appears usually worse in winter, but whether on account of the reflection of the sun's rays or the cold wind is a question.

Dr. Graham closed the discussion. In reply to Dr. Zeisler, he said his first case could not possibly be designated anything else, so typical was it, and this especially in view of the investigation of Dr. Bowen on the subject, which in the deep-seated necrosis was described as characteristic of the condition. The necrosis should at any rate exclude erythema. The second case might be perhaps put under that head, but he thought it resembled Veil's case very much, and a case given by Unna. Whether the superficial character of the lesion in

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some of these cases depends upon the individual or upon the amount of exposure is uncertain, but he inclines toward thinking it due to the individual.

The speaker thought the title dermatitis solaris would be the best term under which to include all the conditions.

In conclusion Dr. Graham drew attention to one point which he thought was pretty well brought out in those recorded cases; namely, that the condition seems to be very persistent in women, and occurs in them later in life than in the male sex.

Dr. George Thomas Jackson, of New York, followed with a report upon

TWO CASES OF BROMIDE ERUPTION.

It so happened of late that within eighteen months I saw two cases of skin eruption, of precisely similar character, the like of which I had never seen during all the previous years. I was puzzled greatly by both these cases, and it was only after I had seen the second case that I felt sure that it, as well as the first case, was one of bromide eruption. The first case was that of Mrs. A., a young woman of nineteen years and a bride of five months. Shortly after her marriage she became ill, and developed an endometritis and a salpingitis. She was under the care of my friend Dr. F. W. Jackson, to whom I am indebted for the case. For some weeks before I saw her she had been in a very nervous condition, for the relief of which she was given bromide of potassium in fifteen or twenty grain doses several times a day, according to the requirements of the case. This she took for several weeks. Afterward she was given other drugs, and was operated on for her uterine and tubal diseases. Shortly after the bromide was stopped an eruption appeared on the forehead that is said to have looked, at first, very much like chicken pox. The eruption spread from the forehead over the body, and the little vesicular lesions changed to sluggish pustules.

I was called in to see the case in consultation on the 20th of February, 1894, after the eruption had lasted four weeks. I found the patient much emaciated, like one who had gone through a long siege of illness. There was about a score of prominently raised, flat, firm, whitish-yellow lesions on the face, which, for want of a better name, I would call pustules. They contained only a very little pus, and that mostly at their summits. Most of their contents was of a cheesy consistence. They had a rather warty look, their surfaces being uneven, like the surface of a raspberry. Some were crusted. They were of the size of a large pea to a small cherry, indolent, with a slight zone of

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redness about them. Similar discrete lesions were scattered over the arms and legs. On each leg there was also a single large, irregular, elevated, firm lesion, placed with almost absolute symmetry. In the scalp there was some crusted lesions. Where the crust had fallen from the lesions on the forehead, slightly pitted, faded red scars were left. When a crust was forcibly removed, a surface somewhat like that of a raspberry was exposed, showing a number of bleeding points.

There were absolutely no glandular enlargements, nor sore throat, nor other symptom of syphilis. A careful examination of the husband failed to show any evidence of syphilitic infection, or to elicit any history of syphilis. He frankly confessed to several attacks of gonorrhœa, and to having contracted one shortly before his marriage.

In spite of the absence of corroborative evidence of syphilis, and in spite of the fact that the eruption did not correspond to any type eruption of syphilis, I made the diagnosis of syphilis with a question mark. The case was seen again by me in about ten days. A number of the old lesions had disappeared, leaving scars and stains. Some new lesions were on the trunk. On the legs the large lesions had gone on to the development of irregular, sharply cut, painful ulcers, with exuberant granulations. The general health of the patient had improved.

This case was treated with the protiodide of mercury internally, and the ointment of the ammoniate of mercury and mercurial plaster locally, and made a good recovery in a few weeks. I saw her for the third time in May, when she came to ask if there was not some means for removing the red spots left by the eruption. The lesions had ceased from coming out for some weeks.

This case was a puzzler to me, and often and often I turned the matter over in my mind and wondered what the thing was. I

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remained in doubt until in February of this year (1895) Dr. Annie S. Daniel sent to my clinic at the Woman's Medical College of the New York Infirmary a little child, whose picture, kindly taken by Dr. G. H. Fox, I show you (see cut).

When I first saw this case it had only a few large pea-size lesions on the face and buttocks, that looked very much like impetigo contagiosa. Some two or three weeks after that I saw the child again, when it had a large number of discrete lesions scattered over the whole body, but most marked on the face and extremities. These presented the same warty surface, the same indolent course, the same scanty amount of pus, and the same light zone of redness that the lesions of the first case presented. In this case there were more large lesions, some with central depression, reminding one of molluscum. Like as in the first case, the larger lesions on the legs broke down after a while and formed indolent, raised, irregular-shaped ulcers. I showed this case to three of my colleagues, skilled in dermatology, and we decided that it was either a drug eruption or syphilis of unusual characters.

I looked up the previous treatment of this case and found that some two or three weeks before I first saw it it had been given bromide of potassium in the usual doses for children on account of sleeplessness. But, as in the first case, it had taken no bromide for some weeks, and yet the lesions kept on appearing.

This case wandered away into the hands of another physician, but happily Dr. Emily Lewi, one of the staff of the infirmary, is his assistant and knew the case. She told me that the child made a good recovery in a few weeks under arsenic and no antisyphilitic treatment. There was absolutely no evidence of syphilis in the parents of the child nor in the history of the case.

Upon the second visit of this case I said to myself that whatever it might be it was the same disease as in the case of Mrs. A. Further observations and study of the case led me to inquire as to the administration of bromide in the first case with the result above given. I am convinced that both of them are examples of a rare form of drug eruption, one of the multiform manifestations of bromide intoxication.

The peculiar features of these cases are the length of time that apparently elapsed between the stopping of the drug administration and the appearance of the eruption; the long continuance of the appearance of new lesions after the stopping of the drug, and the character of the eruption. But none of these things are against the diagnosis; in fact, they rather favor it. Crocker, indeed, gives as one of the diagnostic symptoms of the bromide eruptions that the lesions sometimes do not appear until some days after the drug has been stopped,

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and continue to appear for some days following its stoppage. It is supposed by some that the secreting capacity of the kidneys has a great deal to do with the appearance or nonappearance of these drug eruptions as well as the factor known as idiosyncrasy. It is remarkable that in both of the cases now reported the drug was given for nervousness in the course of diseases that greatly lowered the general condition of the patients, and it is likely that this poor state of the patients had much to do with the appearance of the eruption. So much do I believe this to be the case that I would not be at all surprised not to see an eruption follow the administration of the salt, now that the patients are again in their usual health. The particular lesion in these cases corresponds most closely to the conglomerate form of other writers, and the ulcers are the elevated ulcer of Amidon and others.

I know, and you know, how difficult it is to convey an idea of a strange eruption to one who has not seen it unless one has the use of a colored picture to aid his imperfect words. The reason for my now recounting these cases is that they puzzle me, and that I thought their recital might bring out some discussion that would be of value to all of us. Let this be my apology for my poor attempt at word painting.

A good colored picture of a case similar to my second case is in Crocker's Atlas, Plate XXXV. Another case is shown in Morrow's Atlas, Plate L, and in Taylor's Atlas, Plate XLIX. In all these cases there was more inflammatory action than in my cases.

DISCUSSION.

Dr. Hyde: Relative to the condition described, he had no doubt it was caused by the drug. It appears chiefly in young subjects and cachectic individuals. It is in the patients with unhealthy or enfeebled constitutions that the eruption is seen in perfection. He had never seen it well developed in healthy individuals. When a very abundant eruption occurs, the features are striking and apt to put a man who is not expert in these matters off his guard. He had seen the whole face covered with a mass of crusts, that could be compared with nothing better than confluent variola. He was pleased that the speaker had again called attention to the persistence of the lesions and sometimes their aggravation after suspension of the drug. The only explanation of this persistence is that in these sensitive skins the process apparently reproduces itself after withdrawal of the cause. That the eruption mentioned by Dr. Jackson is peculiar to the bromide of potassium, he doubted, as he believed he had seen an iodide eruption present nearly the same symptoms, and he should be well prepared to believe that other drugs than these two would have the power of producing eruptions similar in character in the two classes of patients already alluded to, viz.: cachectic subjects, and those with sensitive skins.

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Dr. Morrow: The history of Dr. Jackson's cases he thought emphasized a cardinal principle laid down in the diagnosis of drug eruptions, that any eruption which does not correspond to the classical type of the ordinary dermatitis should always suggest the possibility of a drug etiology. He had seen two or three cases resembling very much the clinical features described by Dr. Fox. He agreed with Dr. Hyde that the severe types of this form of eruption are more liable to be seen in children, whose skin is more sensitive, and who are naturally prone to increased vascular disorders from slight causes. The continuance of the eruption after the cessation of the drug is opposed to our knowledge of drug effects. As a rule he thought most all drug eruptions have a tendency to disappear almost immediately after the drug is discontinued. Of course, the disappearance must depend greatly upon the nature and extent of the lesions. Severe lesions of the type described would require a long time for their complete involution. He knew from experience that the eruption persists long after the drug is stopped, and mentioned the case of a little girl who, while being treated for severe epilepsy by the bromides, suddenly developed upon the extremities (first below the knees, afterwards upon the thigh) lesions which rapidly became elevated and took on this fungating appearance. The drug, which she had been taking for a long time, was at once stopped, but instead of the lesions ceasing to appear, it was many weeks before they stopped coming out. Now, if the eruption is due simply to the elimination of the drug by the skin, we can hardly account for the persistence of old and cropping out of new lesions as is seen after quinine, for example, when even so small a dose as that at times capable of producing a quinine eruption is given. The minute dose of quinine must surely be eliminated long before the time when the lesions cease to appear. He would favor the theory that the eruption following the administration of these drugs is the result of some action upon the nerves, at times the central nervous system, which is reflected upon the skin.

Dr. Sherwell agreed with Dr. Fox as to the progress of dermatology as evidenced by the ease of diagnosis of such cases as that of Dr. Jackson which not so many years ago might be called Yaw's or some such condition. A case now occurred to him which he had recently seen in conjunction with Dr. H. Morton, of Brooklyn; the latter gentleman had already made the correct diagnosis, but called him in to confirm it. Here as in Dr. Graham's case the attending physician had at first denied having administered any bromide, but finally remembered that he had done so. The eruption persisted for a fortnight or three weeks after the suspension of the drug, and seemed even to grow more intense. The lesion had the same peculiar appearance of containing fluid, and yet little or none was present. Another case he remembered well, that of a woman coming to his service in the Brooklyn Hospital for some trivial trouble who had been given iodide of potassium on general principles. She developed an eruption on the face and limbs exactly like the bromide eruption which the juniors in the hospital first thought to be small-pox. The patient soon recovered, but about a year later returned with some other affection and to test

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the diagnosis the iodide was again given and the characteristic eruption reappeared. The drug was stopped, but the eruption continued for some weeks, before it entirely disappeared. It was a perfect bromide eruption in appearance, although arising from the use of iodide of potassium, so that we can claim that in a certain number of cases eruptions caused by the iodide cannot be distinguished from those caused by the bromide of potassium.

Dr. Hyde, in reply to Drs. White and Fox, wished to state that although personally he had never seen an eruption of the type under discussion produced by other drugs than iodide or bromide salts he was still prepared to believe that remedies not strictly belonging to that category were capable of producing such a condition. Cases of this nature have been called to his attention. Lately a physician accurately described to him an eruption which had followed the use of hydriodic acid, although the speaker himself had never seen hydriodic acid produce such effect.

Dr. Jackson: Since the writing of his paper last week, he had an opportunity of seeing a similar case at the Vanderbilt clinic in a young woman suffering from epilepsy. Although the bromide had been stopped for some weeks, the eruption continued to come out. With reference to Dr. Hyde's remarks as to the persistent appearance of new lesions after the stopping of the drug as far as his observations went, it seemed to him that the persistence of the eruption was not due so much to the appearance of new lesions, as to the slow and tedious disappearance of the old one. In regard to the child case, and in reply to Dr. Fox he would say that there was absolutely no trace of syphilis in the family whatever.

Dr. Morrow would answer Dr. White's question by asking another, which was whether he believed that in this instance the eruption depended upon the accumulation of the drug in the system? The speaker believed that in a great many of those cases in which the eruption is reported to appear weeks and months after the discontinuance of the drug the history is altogether too vague for credence. He thought that if they were watched more accurately the period during which the eruption continued to come out would be very much circumscribed. He could see no reason why a drug eruption should continue to appear for months after the stoppage of the drug and did not believe that any such assumed relation between the drug and an eruption existed. If it does continue to persist, it must be from some other cause, as certainly the drug by that time must have been eliminated from the system and could not act as an etiological factor. In eruptions of this type, he found as a rule that it required a long continuance of the drug to produce changes in the nutrition of the tissues. Take iodide of potassium, for example, as administered in the treatment of syphilis; it is only after it has been taken some weeks that changes upon the trophic nerves are liable to be produced. On the other hand another class of effects may follow very rapidly. Iodoform, for instance, applied externally may produce a characteristic eruption within twenty-four hours: In this latter case you have a purely neurotic phenomenon, and not a trophic

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change. The trophic changes noticed by Dr. Jackson, he believes never occur immediately after the beginning of the use of the drug, but only from its long continued use. He mentioned a case of a man now under his care in the New York Hospital, whose hands had completely exfoliated, leaving not a trace of the original epidermis. This effect was produced by a single drachm of the tincture of cinchona. The man knew of this idiosyncrasy towards the drug as he had taken a one grain dose of quinine two years ago with similiar results, and accordingly when he visited the doctor this time to get a tonic, he asked the latter not to give him any quinine. The doctor said he would not, but gave the tincture of cinchona instead, with the above-mentioned results. In these cases we do not attribute the result to the *amount* of the drug in the system. Its extraordinary effect upon the vaso-motor nerves of the localities affected, depends upon a predisposition or peculiarity of constitution on the part of the patient. The speaker did not believe that the continuance of drug eruptions was as a rule due to the accumulation of the drug in the system.

Dr. Hyde wished to explain that his remarks were distinctly limited to the eruption described by the reader of this paper. Drug eruptions as a rule subside quickly after the withdrawal of the effective medicament; this is true of arsenical, copaibal and like rashes. But in the cases under discussion this particular eruption, which may be described as of mollusciform type, is produced by the bromide of potassium, and it differs so much from the other drug eruption as to warrant its being placed in a category apart. There is always some disorder preceding the eruption for which the practitioner prescribes the bromide. It is in this class only that the eruption appears and lingers long after the suspension of the drug.

AFTERNOON SESSION.

The Value and Limits of Usefulness of Electrolysis in Dermatology

was the question for general consideration first taken up, and the President called upon Dr. Zeisler, of Chicago, to open the discussion.

Dr. Zeisler: He thought not much that was new could be said upon this subject, and probably the best form for the discussion to take was the recounting by the members of their individual notes. Electrolysis in hypertrichosis it seemed to him was of all means the best; but he thought it was most useful in dealing with stiff hairs, and should not be employed for the lanugo hairs. His experience had caused him to look upon it with hesitation as a means of remedying congenital and angiomatous nævi. Its use here he considered limited to small nævi found in infants. He mentioned a case of a lady of thirty years affected with a nævus covering one side of her face, one of those superficial ones, with the blood vessels chiefly on the surface and no large ones to be found in the deeper portions of the skin—whom he had recently treated by this means. She was very faithful

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to the treatment, the needle puncture being used in places where the vessels seemed distinctly enlarged, and after fifteen or twenty sittings it did not appear to the speaker that the results were very brilliant. He then requested the patient to desist for a few weeks, and report the result. She did so in very encouraging terms. Electrolysis was also useful in small growths, such as warts or small nævi of the fibromatous type; here however he thought a little more care should be taken in piercing such growths with the needle, as scars are apt to remain. He thought the needle should be inserted in such a way that the action would not be too deep, as he preferred repeating the operation to running any risk of scarring. Once penetrated too deeply, the mischief is done. He used the electric needle also in xanthomata. He thought it one of the safest, but not the least painful methods for this purpose, especially if operating near the eye. As to local anæsthesia, he had not much faith in cocaine in such cases; the only way to use it was to impregnate the electrode with the drug, and render the whole area anæsthetic by the cataphoretic action of the current.

Dr. White agreed in the main with Dr. Zeisler's remarks. He, however, did not recognize the impossibility of removing lanugo hairs, he had done so a number of times. As to the desirability of doing so, that was another matter. He had only operated on occasions where much pressure had been brought to bear upon him. He did not think electrolysis suitable for large nævi with hypertrophied vessels. You may be able to remove the latter, but the work is very tedious, requiring a great many sittings.

Dr. Bowen: As to port wine mark, he had been very unsuccessful save when the area affected was very small. Relative to anæsthesia he had been using a 20 per cent. alcoholic solution of cocaine, and he believed it helped to a certain extent. He did not believe there was much absorption by the skin, but imagined that any good effect which followed was due to the penetration of the drug into the hair follicles. Of course he did not claim that total anæsthesia followed, but he was satisfied that there was something more than the moral influence of the application to account for the lessened sensation afterwards.

Dr. Morrow: As regards the general scope and advantages of electrolysis in skin diseases, his experience corresponded with that of the other two speakers. Relative to anæsthesia, he wished to say that some years ago he had experimented a good deal on the practicability of rendering certain limited areas of the skin anæsthetic, and he found a most satisfactory method to be by means of kataphoresis. By saturating a porous material placed on a small electrode with cocaine and using a current of four or five milli-ampères absolute anæsthesia might be obtained over an area corresponding to the surface of the electrode. He found that by scratching the surface just sufficient to break the epidermis without causing exudation of blood, the kataphoric action was very materially favored. There could be no doubt whatsoever of the practicability and efficacy of this method. He had used it successfully in a number of cases of skin grafting, which, as every one will admit, are most painful. He had never tried it in the case of moles or other like formations.

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Dr. Hyde: His experience led him to believe that attempts to remove fine, downy hairs only stimulated them to greater activity of growth. Young Jewish girls with heavy black eyebrows and abundant hair of the scalp were particularly liable to suffer in this way. He was glad, however, to hear that the experience of others in this respect had been more satisfactory. Electrolysis is useful in "spider-cancer," with small telangiectasis, and in rosacea affecting the nose. The operation was useful in the case of smaller vessels, but unsatisfactory where large vessels existed. Although forced to employ cocaine and other drugs of that nature in cases where severe pain was produced, he had a strong objection to do so, as he found that they had a tendency to cause dermatitis. In mollusca he never used electricity, finding it much more easy to remove them with the curette.

Dr. Fox thought there could be no doubt of the value of electrolysis in dermatology, the only question to consider was as to its limits. In hypertrichosis he thought it was not only the best but the only means for the permanent removal of hairs, although often a tedious operation. As to the finer hairs he believes if they can be seen they can be removed; but it is astonishing how much worry a few scarcely perceptible hairs on the chin will give some women possessed of far more serious facial blemishes. His experience in dealing with a few nervous patients made him anxious to avoid such in the future. One he remembered as particularly pitiable, a young woman school teacher from whose lip he removed a few hairs, went to her home in the country, and for a considerable time afterwards made his life miserable by long and plaintive letters, describing all kinds of neuralgic pains from which she suffered and attributed to the operation. He mentioned this to put others on their guard. His opinion is that the effect of electrolysis, if it has any effect at all, is to lessen the growth of hair upon the face. He does not believe that anyone can prove that the removal, either by pulling out, by cutting, or by electrolysis ever affected the growth of neighboring hairs in any notable degree. As to the painfulness of removing hairs by electrolysis his experience leads him to believe it is not more painful than the filling of teeth which we know is at most only uncomfortable. Of course, if the needle was not properly introduced, it might be very painful; the needle should never be jabbed into the follicle if the best results are to be obtained. As to the other uses of electrolysis he thought too many claims had been made. In nævus pilosus, or hairy nævus, excellent results can be obtained. In vascular nævi his results have not been so satisfactory. In the very pinkish wine mark he preferred dotting the surface with carbolic or nitric acid to electrolysis, but in the dark slate colored wine-marks he believed single or multiple electrolytic needles the best. In xanthoma he had had brilliant success with electrolysis, as those gentlemen who remember the cases he showed the New York Dermatological Society will admit; certainly better than could be obtained with a knife. He doubted if true keloid could be removed by electrolysis. In some cases resembling keloid, following syphilitic ulceration of the cervical glands, where large bunches existed, a very good looking cicatrix was produced by the use

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of electrolysis. In angioma he thought it could be used with success, but not with more than that obtained from other methods. He recently removed from the forehead of a child an angioma the size of a horse-chestnut by electrolysis. He used it in one case of epithelioma of the lip with good success, but the treatment was slow and not to be recommended. On the whole he thought they should be very well satisfied with the work of electrolysis in the few cases for which it is a suitable remedy, and that they should not attempt to use it as a cure in very many skin diseases.

Dr Bronson thought the subject under consideration not a very easy one to discuss. Most of those present well knew the advantages and disadvantages of treatment by electrolysis; and as to the limits of its applicability, that was for time to decide. He thought its chief use was in cosmetic operations. The chief disadvantages in operations to remove superfluous hair are pain; the fact that the hair sometimes appears to be stimulated to increased growth, and the danger of producing scars. In some measure he thought these disadvantages might be avoided. As to pain, he thought it rather insignificant, believing that the cramped position in which it was necessary to keep the patient caused more discomfort than the actual pain, and in his experience it was the physician often, and not the patient who was the first to cry "Hold! Enough." As to the increased growth of hair, he thought such undoubtedly occurred in many instances. When hairs grow again from follicles already operated upon this fact could usually be detected through the presence of the slight mark or scar that was almost always left. But such regrowth was too slight to account for the number of coarse hairs that sometimes succeeded an operation. As to the lanugo hairs which are almost invisible to ordinary eyesight, and as such impossible to remove, it is hardly probable that they account for the new growth, but there are always many somewhat larger but still downy hairs that are overlooked and these under the stimulus of the operation are liable to become darker and coarser. The more thoroughly these are removed at the first operation the better the result. Relative to the resulting inflammation after the removal of the coarser hairs, and which rendered the patient so unsightly for a few days, he thought something could be done to avoid it. He had used an ichthyol paste recommended by Unna (icthyol, gr. xx; starch, gr. xx; albumen, gr. i; water, m. xxx) which pasted on at night, it seemed to him limited the inflammatory reaction. He would only mention the use of electrolysis in one other disease, viz.: the treatment of rosacea. He found it succeeded in some cases after the use of icthyol, resorcin and multiple scarifications had all failed. He found by making multiple punctures with the needle as close together as possible, that a considerable blanching of the skin resulted, a certain amount of destruction of blood vessels, and permanent benefit followed. He also found electrolysis useful in hypertrophied cicatrices from strumous glands of the neck where very often, by electrolysis, the puckering of the part together with the superficial tags and elevations could be reduced, and the appearance improved.

Dr. Hartzell: He thought, so far as our present experience went,

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there was very little use in dermatology for electrolysis beyond cosmetic operations, such as removing superfluous hairs, small telangiectasis, etc. He, however, agreed with Dr. Bronson in thinking it of value in rosacea, and believed that here it not only destroyed the larger vessels, but the cicatrices, following the multiple punctures by contracting, served to drive the blood out of the part.

Dr. Jackson: He thought the increased growth of the hair after an operation of this sort was only apparent, not real. He was accustomed to look upon the growth of superfluous facial hairs in young women as corresponding to the growth of the beards in young men, and as we know that in the latter case new hairs keep cropping up until adolescence, at all events, is passed, it was only reasonable to expect the same thing to take place in the case of young women. He was accordingly in the habit of answering the question of such patients as to whether the hair would grow again by saying he could not tell how many or for how long a time the hairs might continue to sprout, but he would take them out as fast as they did so. There may be some increased growth after an operation, but these hairs would grow anyhow. Relative to scarring he believed there were some women's faces where, do what one might, it was impossible to avoid it, and he consequently thought it a wise rule never to commit one's self to a strange case by promising that no such effect should ensue. It is especially apt to occur about the corner of the upper lip. The chief difficulty he found about the finer hairs was that of telling when they were really removed and not broken off. In the case of the coarser hairs, we know that when the hair comes out easily on slight traction it is destroyed, but these fine hairs break so readily that one cannot always make the distinction, and, of course, if the hair is only broken off it will grow again. He had noticed pigmentation follow the removal of hairs, and he mentioned one case of a lady in whom the removal of hairs from her leg even caused pigmentation. As to the question of pain, when patients complained of it he employed cocaine. Recently he had been dipping his needle in a lanolin preparation of cocaine before each puncture, and it seemed to help. Like Dr. Bronson, he would be glad if some one could tell him how to prevent or reduce the reactionary inflammation. He used to try hot water and such like applications, but without much apparent benefit. In vascular nævi (the port wine mark form) he found multiple punctures with a single needle of value. Before commencing he takes a fine pen and dots the area he intends to operate on. There is no doubt about its efficacy in reducing the color, the art of the operation, though, comes in knowing when to stop, if we wish to avoid leaving a blanched instead of the red tint. Even in cavernous nævi he believes much good can be derived from the treatment. He has seen some of the large tumors shrink up into fibrous nodules. What became of the nodule afterwards he could not say. In rosacea he cannot speak so favorably; he thought there was a tendency for the destroyed vessels to reappear, and in a case of general redness of the skin he preferred linear scarification.

Dr. Morrow: The painful impression in cataphoresis depends

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on the number of elements in the circuit. He had used it in the experiment of skin grafting already referred to, and more recently in some experiments in the peroxide of hydrogen for removing pigmentation of the skin, and never found any considerable pain accompanying its use. With regard to the power of peroxide of hydrogen in removing pigment, he did not find it so brilliantly successful as it is claimed by dentists to be in removing the discoloration from the teeth.

Dr. Wigglesworth admitted the truth of Dr. Jackson's remark concerning the futility of treating the large deep vessels in rosacea by electrolysis. In the case of superficial vessels, however, it is otherwise, and the good results are usually very noticeable. In lupus erythematosus one may at times get results quite as good as those obtained by the incisions of Volkmann. He had also found electrolysis of value in treating acne indurata, but thought the curette more useful for small warts. Perhaps the best way to use cocaine was 10 per cent. alcoholic solution, which lightly applied to the parts after the operation gave the anæsthetic effect of the cocaine as well as the cooling and sedative effect of the evaporating lotion. It should not, however, be rubbed in, as this made matters worse by increasing the blood supply. So also port wine marks are often aggravated by wrong treatment; one case he could recall, treated by a member of this association not now present in which a small mark was made into a large one by the use of potash, but which yielded entirely, at one sitting, to electrolysis. The current used was ten cells and the punctures were made around the entire border. In rapidly acquired conditions, the results were much better than in the old solidified port wine marks of birth. As to scarring one can manage to avoid it by paying attention to the points already alluded to by previous speakers. The mistakes made, he thought, were using too strong solutions and not looking out for idiosyncrasies such as a tendency to the formation of keloid or to the development of pigmentation. If these were more carefully considered, scarring would seldom result.

Dr. Robinson wished to say something as to the growth of the hair subsequent to these operations. His experience was that the irritation caused by the use of the needle certainly sometimes produced an increased growth of the neighboring hairs. He instanced the case of chronic dermatitis of the scalp accompanied by a great stimulation and nutritive changes in the epidermis, which when cured is occasionally followed by an abundant growth of hair. The same is seen in fracture of the tibia where the skin is near the broken bone; hairs develop in a marked degree. Shaving is another instance of irritation increasing the growth of hair. For these reasons he never used electrolysis on any part, such as the upper lip, where the hairs are close together, but he thought it was very useful in other parts of the face. Electrolysis is, he thought, the most satisfactory method we know of treating hairy nævi; it sometimes requires a great number of sittings, but success is always the reward in time. In regard to the reactionary inflammation, he thought the method of using the needle had something to do with it; he found that if you go right into the follicle the

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irritation is less than if you go outside of it. He uses powerful spectacles which enable him to see every follicle and thus make exact introduction of the needles easy.

Dr. Allen: During the past summer he had had occasion to employ electrolysis in a variety of minor affections, such as warts and moles, in addition to its use for the removal of superfluous hairs, etc. For this purpose he had of late been using a flat, double-edged needle which he introduced through the base of the new growth, and by carrying it slowly first to the one side and then to the other succeeded in removing the growth in a bloodless and comparatively painless manner. He had found this plan preferable to that of passing the current until the little tumor was swelled up or discolored, and then left to dry up and fall off by itself. The advantage being that the operation is completed at one sitting and gives better satisfaction. Electrolysis in hirsuties is especially available for cases with a pronounced growth upon the chin, and is not so uniformly successful upon the upper lip.

He did not think it wise to operate on every case that presented itself. Many women who apply for the treatment have morbid notions concerning the extent of their disfigurement, and these very patients would be the ones to find the improvement much less marked than they had anticipated. In many women a mole upon the face or a very slight moustache rather enhances the individual's beauty than otherwise, and by telling her so she becomes readily reconciled to the would-be-blemish. A lady who had recently applied to him for the removal of the hairs between the brows had gone away satisfied to have them remain when given the professional opinion that they increased rather than marred her beauty. Another lady was advised to consult her husband before having her lip operated upon, and it was found that he admired the slight growth and would have objected to its removal.

In superficial port-wine mark the best results are often obtained by using the needle very superficially, making numerous very slight punctures over the surface. This, however, is usually quite painful. In lanugo hairs the follicles which have been spoken of seemed to him rather superficial indentations of the surface oftentimes, and care should be taken that the needle does not penetrate too deeply.

The use of glasses to detect the follicular openings was well enough in its way and he occasionally wore them, but it is of much more importance to discover the angle of implantation of the hair and the direction taken by the follicle beneath the surface. It is here that most mistakes are made. Care should be taken in withdrawing the needle to break the current and thus avoid shock and pain. He did not think the deep effect of cocaine so necessary since it is only at the surface level on entering and withdrawing the needle that pain was usually complained of. The application of some sedative or evaporating lotion was advisable to relieve the reactionary inflammation. He often, too, painted over the operation field with benzoinated collodion, or applied a dessicating powder. He had seen no lasting results from electrolysis in keloid.

Dr. Fordyce said during the past two years he had discarded batteries in favor of the modified Edison current. By means of rheostat

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and lamp resistance he could now obtain a current of half a milli-ampere.

Dr. White called attention to the comparatively few years after Dr. Hardaway had first brought this operation to our notice that all the advantages and disadvantages were known. It seemed to him that nothing had been said to-day that was not known years ago.

Dr. Zeisler: He thought members should be more guarded in their statements about the increased growth of hairs; he did not think that was true so far as the development of new hairs was concerned. One hears too much of that sort of talk from patients who have been using some proprietary salve or soap. A little stimulation may assist hair already present to grow more rapidly, and he thought that was the most that could be said.

Dr. Hyde: In answer to Dr. Zeisler's remarks wished to mention a case in his experience which he felt sure could be corroborated by other members present. A man with an obstinate neuritis over one scapula, which he had blistered and stimulated continually for years, had over the affected region a growth of hair two and a half inches long, and nowhere else save in that locality. A little downy hair can be produced on the scalp by irritation or stimulation of the surface which, however, will soon disappear.

Dr Morrow wished to ask Dr. Hyde how he accounted for the deleterious effect which followed after the use of cocaine in the case mentioned.

Dr. Hyde thought the solution used could not have been aseptic.

Dr. Sherwell, while fully agreeing as to the propriety of using electrolysis in hairy moles, as a general remedy in dermatology he has been much disappointed in it. He also has never seen much good following its use in serious angiomatous conditions; there he found the galvano-cautery or the igneous puncture to give more satisfactory results. He had not much personal experience in the improvement of the faces of ladies and others. He wished he had, but he had seen a very considerable number of the individuals supposed to be improved, and he could only say that if they were so, their first state must have been bad, indeed. His practice was to scoop out these moles with a curette or make an elliptical incision. The cicatrix following is small, often scarcely perceptible, and the result is good. As to the use of electrolysis in hypertrichosis he thinks its achievement does not excel that of the American Indian in his practice of epilation, who is accustomed to do that sort of work, and performs it most thoroughly. They keep their faces bare by simply pulling out the hairs, with the help of a tweezers and looking glass. He has recommended a similar course to a great many people with hypertrichosis and has been well satisfied with the result. He believed the continual plucking finally destroyed the follicle.

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The following paper was read by JOHN T. BOWEN, M. D., of Boston:

THE EPITRICHIAL LAYER OF THE EPIDERMIS AND ITS RELATIONSHIP TO ICTHYOSIS CONGENITA.

It is my object in this brief communication to call the notice of the association to a well-marked layer of cells found in the epidermis of young embryos, which has been observed and described as forming a distinct membrane covering the hairs in certain of the lower animals. Welcker, of Halle, was the first to describe this layer. He found in an embryo of a sloth a distinct outer membrane covering the hair development of the animal. To this he gave the name *epitrichium*, on account of its position overlying the hairs. He further found that this existed as a distinct membrane in certain mammals, while in others, where there was no separable membrane, the upper cells of the ectoderm were different histologically from the cells below.

He reserves the name *epitrichium*, therefore, for the separable membrane found only in certain mammals; the outer layer of histologically distinct cells found in certain other mammals, and evidently homologous with the epitrichium, is called the *epitrichial layer*. In man, he describes distinctly an epitrichial layer, consisting of large cells with round nuclei much larger than those of the epidermal layers beneath.

This *epitrichial layer* in man has not received recognition. Kölliker states that it is not proved that there is a distinct difference histologically between the outer cells and those beneath, nor that it is these outer cells alone that are cast off. Welcker's *epitrichium*, however, meaning by this the distinctly separable membrane of certain animals, has been generally accepted.

My attention was directed to this subject in 1887 by Dr. C. S. Minot, who had seen in shreds of fœtal skin, when stained by carmine or hæmatoxylin and examined with outer surface uppermost, a layer of large cells of polygonal form with a granular body in the center, and within this a nucleolus. He considered these cells to be part of the epitrichial layer described by Welcker in 1864, and since forgotten.

During the following two years I spent much time in investigating this question, and the results of my work were embodied in an article in the *Anatomischer Anzeiger* for 1889. As this journal is one not commonly read by dermatologists unless especially interested in some anatomical subject, and as I think the persistence of this epitrichial layer may play some part in the ætiology of certain affections of the

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skin, I take the liberty of briefly reviewing some of the conclusions that I arrived at in the article referred to.

It was found that in embryos of from two to three months, the epidermis possessed an outermost layer of large polygonal cells, granular in appearance and with large nuclei. Moreover, the shape of these cells was peculiar, many of them having a rounded, puffed-out, or "domed" appearance. These cells I considered to be the outermost layer of polygonal cells that are seen in the two-celled period of epidermal development, these outer cells persisting and becoming transformed into the doomed cells, while beneath them the other mucous layers are formed. In embryos of from three to four months there were seen two rows of outer granular cells, many of them having a puffed-out, bladderlike appearance, so that they may be called bladder cells. A very large number of embryos (fifty at the least) were examined for these cells, and bits of skin were taken from many different parts of the body. In all parts these peculiar cells were found. They were more numerous in the best preserved specimens and when the sections were carefully handled. It was found that in the sixth month this layer had disappeared over most parts of the body.

It was held that there were good reasons for considering these cells as forming a definite and distinct histological layer. They differed greatly in size, form, and general appearance from the cells of the mucous layers below. They were very unlike the cells of the later horny layer, which is produced solely from the mucous layer, the epitrichial layer, at least on most parts of the body, not being concerned in its production. When the horny layer has made its appearance, the epitrichial layer has disappeared, with the exception of a few clumps of bladder cells seen sticking to the scales. The close resemblance of this layer of cells to the elements comprising the epitrichium that covers the hair of certain animals and the epitrichial layer of certain other animals, points forcibly to the conclusion that they are homologous structures. Moreover, the partially horny tissue that covers the fœtal nail, and that has been named by Unna the *eponychium*, is evidently a part of the epitrichial layer, as one can trace a direct connection between the eponychium and the domed and bladder cells that have been described. In embryos of five months, after the nail has become exposed by the loss of the epitrichial layer over most of the surface, a heaping up of horny cells is found at the nail edge, forming a thick ridge. This is produced by a persistence of the epitrichial layer at this point and by a keratosis of the bladder cells; the horny formation not, in my opinion, being derived from the mucous layers, as is the stratum corneum.

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At the time these investigations were made my attention was naturally directed to the question whether any known epidermal anomalies were to be explained by the persistence of the epitrichial layer after birth, and the class of cases that has been described under the title of "ichthyosis congenita" suggested themselves at the outset. No example of this condition had, however, fallen under my observation, and the cases reported varied so greatly in degree, and were so variously interpreted by different writers, that speculation as to their ætiology seemed worse than useless. In the summer of 1892, however, a case was brought to me that at once suggested the persistence of this embryonic epitrichial layer at the time of birth. The patient was a male, seven months of age. The skin of the trunk, legs and arms was thickened slightly, and scaling moderately in rather large flakes, especially upon the back. The skin of the legs was comparatively normal. There was considerable scaling and thickening of the scalp, especially of the occiput. The father and mother were both healthy, and had previously had five healthy children, and no family history of importance could be elicited. The parents' account of the condition of the child's skin at birth was corroborated by the physician who had been in attendance, Dr. Bacon, of Brockton. Dr. Bacon said that when the child was born there seemed to be a thin, perfectly smooth membrane covering it completely from head to foot, which was not detached, but closely adherent to the underlying tissues. In smoothness and in appearance this membrane suggested paraffin paper. It was five weeks before much of this membrane was lost, when it began to peel off in large strips—not in the form of branny scales. The skin underneath the membrane looked normal, but a process of slow scaling had been going on after the membrane had peeled off, which was diminishing gradually when the patient was seen by me. According to the attending physician, there had been no ectropion, and no deep fissures and cracks in the skin such as are described in many recorded cases of ichthyosis congenita.

It was afterward learned that the child died of diphtheria in January, 1893, and that before the attack of diphtheria the skin had become almost normal and the health was very good.

There seemed to be good ground for the assumption that this cutaneous phenomenon was due to the persistence of the epitrichial layer, which had preserved its integrity up to the time of birth, instead of being cast off by the seventh month, as in the normal fœtus. Whether this case was to be classified as a mild, attenuated form of the disease described as ichthyosis congenita or ichthyosis fœtalis, it was impossible for me to determine with the data at hand.

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At the meeting of the Société de Dermatologie et de Syphiligraphie in January, 1892, Hallopeau and Watelet reported a case which they described as an attenuated form of the disease called fœtal ichthyosis. In this case the infant was seen by one of the reporters a quarter of an hour after birth, when the whole surface of the body was found to be covered with a white pellicle, so that one might have thought it thickly strewn with rice powder. Fifteen minutes later this pellicle became broken in places, especially at the flexures of the joints, and began to separate in large sheets. There was some ectropion. When this outer pellicle had been cast off, the skin beneath was seen to be reddened, and a mild exfoliation in the form of fine branny scales, unlike the large pieces that were formed by the breaking up of the pellicle, persisted for some time. The pellicle is compared to a layer of collodion that had been applied to the surface of the skin, and had broken at various points. The general condition of the infant was good.

This case was regarded by the reporters as an attenuated form of ichthyosis congenita, despite the marked difference from the severe cutaneous alterations that had previously been observed in this affection. Opinion was divided among the other members of the society, several, among them Besnier, declaring that if the conception of the term ichthyosis were properly held to, it would occur to no dermatologist to place this case under that heading.

At a later meeting of the society a letter from Kaposi was read, in which he calls attention to the plate in Hebra's atlas called ichthyosis sebacea, which seems to him analogous to the case described by Hallopeau, while the graver cases of ichthyosis congenita described by Kyber, Hans Hebra, and others, he seems inclined to group by themselves.

In the *Annales de dermatologie et de syphiligraphie* for February, 1895, there appeared an interesting and suggestive article by Grass and Torok upon a case of lamellated exfoliation of the newborn or the ichthyosis sebacea of Hebra. In this case the child, seen twenty-four hours after birth, looked as though covered with a thin layer of collodion, which was broken in places by fissures extending no deeper than the membrane itself. This covering was adherent in all parts except at the seat of the fissures, and here the skin deprived of the membrane appeared normal. The child died three days later from an intrameningeal hæmorrhage due to the application of the forceps.

Grass and Torok, in their discussion of this case, assume its analogy to the ichthyosis sebacea as pictured by Hebra, and plead for the separation of these cases from the severe forms of diffuse keratoma

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described as ichthyosis congenita or fœtalis. Moreover, what is of especial interest, they refer to Welcker's epitrichium, or the distinct membrane covering the hairs of certain animals, and assume that in cases like their own and in all cases of "ichthyosis sebacea" the cells of the stratum corneum possess a greater coherence than usual, which results in the formation of an envelope completely analogous to the epitrichium of certain animals. This condition they regard as in no sense pathological; it is simply a variety of the physiological desquamation of the newborn.

Kaposi's view, that ichthyosis sebacea (which they assume to be the same condition as the case described by them) is caused by the sebaceous excretion continuing for a longer or shorter period after birth, and finally drying up and being cast off in the form of scales, is proved by microscopical examination to be erroneous, as no fat was found in bits of the membrane except at the mouths of the sebaceous glands. Ichthyosis congenita in the severe forms described by Kyber, Hebra, and in America by Elliot and Sherwell, they consider, as has been said, a totally distinct affection, as well as the ordinary ichthyosis. They propose to call the affection represented in their case "exfoliation lamelleuse des nouveau-nes," as in accord with the anatomical evolution of the process.

It seems to me that Grass and Torok have done much toward clearing up this matter, and that in all probability different affections have been described as ichthyosis congenita. Whether all the cases called ichthyosis sebacea by the Vienna school are identical with Hallopeau's and Grass and Torok's case it is impossible to say. Certainly the Hebra plate of ichthyosis sebacea is not inconsistent with such an assumption. The prominence given to the seborrhœal element in such cases has added much to the confusion, as it is not shown that the scales and concretions are made up to any considerable extent of sebaceous matter—all the evidence points to the outer epidermal cells as solely responsible for the pathological condition.

Now, it can scarcely be questioned that the three cases just described—viz., Hallopeau's, Grass and Torok's, and my own—represent the same pathological process. In all the child was born with a membranous covering which impressed the observers with its similarity to a layer of collodion or of oiled paper. After a short time this membrane began to peel off in large masses and sheets, leaving the normal skin below in a state of moderate desquamation, which slowly subsided. The health of these children was not visibly affected by the abnormality of the skin.

These three cases at least are to be grouped together, and are

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examples, in my opinion, of a persistence of the epitrichial layer, which has usually been cast off by the seventh fœtal month, but in these instances maintained its integrity up to the time of birth, when it enveloped the infants like a distinct membrane, such as is found in certain animals. Whether some of the other cases heretofore described under ichthyosis congenita may belong in this category and are due to the persistence of the epitrichial layer, it is difficult to form an opinion. There is the widest divergence in the clinical appearances found in the advanced cases of so-called congenital or fœtal ichthyosis and the three cases that I refer to. In these advanced cases of fœtal ichthyosis Kyber's name of universal diffuse keratoma seems justified. His histological studies showed a great proliferation of the cells of the rete and a correspondingly increased cornification of the upper cells, together with an enlargement of the interpapillary rete prolongations and of the sweat glands. Such cases can not certainly be explained by the persistence of a fœtal layer merely, but it may be that these outer cells are subject to pathological changes *in utero*, which play a part in the resulting deformity.

Grass and Torok say that in all cases where the newborn child is covered with a horny layer, in process of slow detachment in large masses, we must assume a stronger coherence of the horny cells, which causes the formation of a horny envelope analogous to the epitrichium of certain animals. They consider this a variety of the physiological desquamation of the newborn and in no sense pathological. In other words, the membranous outer envelope is produced by a persistence of the scales of the horny layer proper, which are usually cast off gradually before and after birth.

It will be seen, from what has been said at the beginning of this article, that Grass and Torok's view is probably not quite the true one, for it has been shown that there is in man an *epitrichial layer* which is at all times above and histologically different from the horny layer. As the epitrichial layer disappears by the seventh month, the normal desquamation of the last few months of fœtal life and of the newborn child is produced from the true horny layer. In the instances where the child is born with a covering or envelope composed of horny cells, as in the cases of Hallopeau, Grass and Torok, and in my own, a rational explanation is that in these cases the epitrichial layer, instead of gradually exfoliating and disappearing by the seventh fœtal month, retains its integrity up to the time of birth, when the child is born covered with a membrane completely analogous to the epitrichium of some animals. Beneath this membrane lies the true horny layer which desquamates in small scales after its outer covering has been removed.

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DISCUSSION.

DR. FORDYCE thought that the explanation given was the true one—the persistence of the epitrichial layer.

DR. WHITE: Referring to the loss of the early formed hairs which takes place in utero, he wished to know from Dr. Bowen if he had noticed whether or not they were connected with this epitrichial layer. Relative to the disease illustrated by the plate of Hebra, the latter authority regarded it as practically fatal, although he had known some cases to recover. It was quite evident that he regarded the condition thus depicted as something far more serious than this adult desquamation.

DR. SHEPHERD: This paper showed the importance of the study of embryology. Many of the anomalies which occur are easily explained by the theory of persistence of a fœtal condition. It seemed to him that the explanation given by the reader of this paper was a very plausible one.

DR. SHERWELL wished to know from Dr. Bowen if the persistence of this epitrichial layer was not in his opinion rather an instance of extra conservatism on the part of nature, rather than a neglect as suggested by Dr. Shepherd.

DR. BOWEN, in answer to Dr. White, said that in animals the hairs were all underneath the epitrichial membrane which was situated outside them. In man the hairs do not appear until after this membrane is lost, at least not to any extent. Of course, it is hard to speak positively on this matter, which he thought would form an extremely interesting study. In regard to Hebra's case, he did not wish to be dogmatic; he would only say it resembled the three cases that he considered examples of the persistence of the epitrichial layer. In answer to Dr. Sherwell, he said he simply called it a persistence of the epitrichial layer.

THE SECRETARY announced the receipt of a paper from Dr. Cantrell, entitled

ULERYTHEMA SYCOSIFORM. (Lupoid Sycosis.)

With report of a case by J. ABBOTT CANTRELL, M. D. and JAY F. SCHAMBERG, M. D.

The following report is deemed worthy of presentation to this association on account of the rarity of the disease and the obscurity that has until recently surrounded it. About 1865 the disease was described by Milton under the name "Lupoid Sycosis." This author says: "I have seen in some rare cases (of sycosis) a slow superficial form of ulceration beginning with minute tubercles and attacking the hair follicles, causing falling of the hair and slight, though indelible cicatricies, a disorder which seems to me to be nothing more than "Lupus Non-

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Exedens." Unna in 1889 described a disease which he terms "Ulerythema Sykosiforme" and reports a case in considerable detail. By Ulerythema the latter writer means a pathological process which goes on to the formation of atrophic scars without intermediate suppuration or ulceration, in other words, through the resorption of the cellular infiltrate. We append a full record of the case reported by Unna in order to show the similarity to the case which we shall presently describe.

Unna (Monatshefte f. Prak. Derm., 1889–ix–134) records the case of a man forty years of age in whom the disease began in 1877 as a small pustule upon the left cheek which soon developed into a suppurating furuncle. A roundish, reddened, slightly elevated patch about the size of a German thaler gradually formed. This wept and was covered with an accumulation of crusts. The next year there appeared upon the hairy border of the left temple a similar patch covered with crusts. The weeping and crusts continued and the process gradually involved the whole of the left cheek. The hairs of the affected part became loose and could be easily lifted out. Upon extraction whitish nodules were visible upon the hair roots. After the disappearance of the hairs the affected area became pale and there developed smooth, flat scar tissue. Two years later a patch developed in the beard of the right side whilst upon the left the process came to a standstill. Later the patch upon the left side spread over the whole cheek, thence down to the neck. At the same time the moustache became involved upon both sides. Upon the reddened and slightly swollen skin there appeared crops of white vesicles with thick fluid whitish contents. These dried, were scratched open and formed branny crusts which resembled a starch-like dust and the face looked as if it had been powdered. From the beginning the patient shaved to prevent spreading of the affection, but now he rather believes that new points were thereby inoculated.

Present condition.—The patient looks robust and has a good healthy color. The hair of the scalp is blonde and thick. The beard which is likewise blonde is only present on the chin and neck. Both cheeks are bald except a small border on the rami of the jaws and there is evident extensive scarring. From a distance even these areas can be distinguished from the normal skin by a bluish-red color tint, an abnormal smoothness, and an almost satin like shimmer. On closer examination numerous fine whitish fibres of cicatricial tissue are seen traversing the bluish-red background in a sieve-like manner. On the right side of the face the borders of the patch are quite elevated. Here are seen scattered brownish scales penetrated by hairs.

In the middle of the left upper lip there is a patch one-half to one

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centimetre in diameter in which there is a total loss of hair. There is here smooth superficial scarring.

From the middle of the chin a reddish line of small firm papules descends towards the neck and thence turns to the right. On the left side of this line the skin is diffusely reddened and is covered with small, round, white scales. Near here is a group of five mustard seed sized exfoliation vesicles, three of which are pierced by hairs, whilst the other two are not, but correspond to follicular openings.

Course.—The course of the disease as well as the above description shows that this affection has nothing to do with ordinary sycosis. Sulphur, resorcin, potassium soaps of all kinds not only did no good but actually inflamed the already cicatricial areas. A constant symptom was the appearance of large numbers of whitish superficial, peri-follicular exfoliation vesicles which rapidly dried and formed crusts. The mercurial preparations alone (mercurial carbolic plaster mull and sublimate in lead water) seemed to do good. On the whole the treatment which produced local ænemia was the best. The use of energetic remedies was followed by increased inflammation. At times the parts appeared passive; shortly afterwards a high degree of inflammation would ensue after the use of an indifferent remedy. It was evident that there was a deep disease masked by the superficial scarring. Never were any primary purulent vesicles present. The pustules were always due to secondary infection—due to pus cocci.

Furthermore the appearance of the pustules did not occur during the acme of the inflammation. The patient became improved but not cured. At present there is a very slow amelioration taking place.

Brocq in his treatise upon diseases of the skin says: "The variety to which I have given the name 'Sycosis Lupoide' is observed chiefly in the beard, and the morbid process presents a great degree of intensity. The inflammatory lesions are characterized by large peri-follicular pustules, by redness, by thickening of the skin and by the production of crusts and scales. In a word the affection resembles a non parasitic sycosis which has arrived at an intense degree of inflammation and infiltration. It differs from it by the constant tendency to a regular centrifugal extension and a total atrophy of the pilo-sebaceous system. All the hairs of the affected region are radically destroyed. There persists after the evolution of the process a central cicatrix more or less hard and thickened, sometimes keloidal. It may, however, be smooth and soft. Often it presents upon its surface little fibrous bands more or less elevated and irregular. As the affection spreads the center clears up and the pustules, scales and crusts disappear, while on the periphery there is a halo of reddened tissue thickened, inflamed,

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covered with points of folliculitis, crusts and scales. This is the zone of activity of the affection. The disease thus constantly progresses in the hairy region, leaving after it a skin deprived of its glandular and pilous elements, in other words a permanent alopecia.

"The diseased areas are rarely multiple, there being seldom more than one or two. They may attain the greatest dimensions unless checked by the most energetic treatment. This affection differs from non-parasitic sycosis and parasitic sycosis by its peculiar course and by the characteristic tendency to leave after it a permanent alopecia. One might compare this affection with certain other diseases until now included under the head of lupus, which also produces irremediable loss of hair; nevertheless, it differs from them by its limitation to hairy regions, by the constant absence of lupoid nodules and the bacillus of Koch. Furthermore by its aspect, which is neither that of Lupus Vulgaris nor Lupus Erythematosus. Certain French dermatologists have made the diagnosis of 'Lupus Acneique' in the presence of typical cases of this affection. Certain foreign authors have perhaps denominated it lupoid acne, but we (Brocq) prefer the name 'Sycosis Lupoide.' The most efficacious treatment is that of lupus vulgaris."

L. H., male, æt. 55 years, native of Philadelphia, was a seaman in the United States navy, now an inmate of the naval home, has always enjoyed excellent health with the exception of an attack of pneumonia about twelve years ago. In 1886 the patient suffered from a pustular disease of the beard which lasted two years and then got well. In 1893 he presented himself at the Skin Dispensary of the Hospital of the University of Pennsylvania with a condition which was diagnosed by Dr. Hartzell as an ordinary non-parasitic sycosis. The patient stated at the time that he had had the eruption about two years. He remained under treatment for a considerable time, but was later lost sight of. In March, 1895, he presented himself to our view at the Philadelphia Polyclinic. At this time the following appearances were noted: The diseased areas involved both cheeks, but the condition was more marked upon the right. Upon this side the diseased area was pyriform in shape, with the base downwards extending from the angle of the jaw to the zygoma, four inches in length. The diameter of the base was two inches, at the stem one inch. The patch presented a pinkish-red color, which here and there faded into the surrounding skin, while at other places there was a defined border. Perhaps the most striking peculiarity of the skin over this region was its smooth, glistening, atrophic appearance. Instead of the normal epidermal covering there was a soft shining wrinkled pellicle. Beneath the diffuse redness there

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was evident throughout the patch a whitish stipling. The surface gave to the finger passed over it a velvety sensation, but it was evident upon pressure that there was increased resistance of the derma beneath. At first sight it appeared as if there were no follicular openings over this area, but upon closer investigation short hairs could be seen piercing the fine epidermis. Some portions of the patch showed complete loss of hair, especially towards the center. Near the periphery there was less hair loss. No follicular suppuration as evidenced by the presence of pustules was noted. The diseased process involved the inter-follicular region just as much as the hair follicles. Scattered over the patch were perhaps half a dozen vesicles and blebs, varying in size from a pea to a cent. These were very flat, being not more than one-sixteenth of an inch above the level of the skin. The epidermal covering was very thin. Their contents were invariably viscid and transparent. After rupture the vesicles and blebs collapsed and formed brownish crusts which exerted traction upon the surrounding skin throwing it into radiating folds. Some of these crusts subsequently became purulent as a result of accidental infection. Upon their removal there were denuded surfaces which exhibited serious exudation. Here and there was a fine furfuraceous scaling. The entire patch was slightly depressed beneath the surrounding healthy skin. Upon the left side of the face the patch was irregular in shape, about one-inch square and one inch above the angle of the jaw and one-half inch internal to the lobule of the ear. There were a few small outlying areas connected with the larger patch by isthmuses. The patch was more red, more sharply defined, less atrophic and depressed than upon the opposite side of the face.

Within two weeks a new patch, about the size of a silver quarter, has made its appearance above the previously described area, but not in any manner connected with it. This patch simply showed hyperæmia. As upon the right side there were vesicles, blebs and crusts, remains of former lesions. The course of the disease was extremely obstinate during the six months that he had been under our observation, and there has been absolutely no improvement. On the contrary the patches are actually larger than they were upon his first presentation at the clinic. At certain times there seemed to be an improvement, namely a reduction in the amount of hyperæmia and lessened number of vesicles and blebs. This amelioration, however, seemed to be spontaneous and not the effect of treatment. Crops of vesicles and blebs appeared at intervals of a day or two. They would spring up in a few hours and be attended by such intense itching that the patient would be obliged to rupture them. Sulphur was used

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both in solution and as an ointment without effect. Sedative lotions, especially those containing calimine and zinc oxide seemed to give most relief.

The patient for a time was placed upon Fowler's solution, four minims thrice daily. Within four or five days a marked aggravation of the condition occurred. There was very rapid spreading of the patch, increased hyperæmia, increased bleb formation, and augmentation of the subjective phenomena. Upon the cessation of the drug, rapid improvement followed and the face became better than it had been for months.

It will be seen from a comparison of these reports that the disease is one and the same. The minor differences result probably from the cases having been seen in different stages.

The disease consists essentially of a follicular and peri-follicular inflammation which goes on to the destruction of the hair follicles and the formation of atrophic scars. Brocq does not mention the formation of vesicles or blebs but had he kept his cases under observation long enough these might have made their appearance. Unna regards his case as having been from the start an ulerythema; our case had a distinct antecedent history of an ordinary non-parasitic sycosis. There is a general agreement as to the marked rebelliousness of the affection to treatment.

Microscopical examination.—Biopsies were made upon several occasions, small portions of skin being excised from the center of the patch upon the right cheek. The greatest care was necessary to prevent detachment of the thin epidermis. This was so loosely adherent to the corium beneath that a simple vertical incision was sufficient to separate it. In two excisions, the epidermis came off before the biopsy was completed. In the third, by excising a larger piece of skin the epidermis remained adherent to the corium except at both ends. The excised block of skin was hardened in successive strengths of alcohol and imbedded in paraffin. The sections were stained with the Biondi-Ehrlich-Haidenhain stain, hæmatoxylin and eosin and by Gram's method.

The stratum corneum and stratum lucidum are absent. The stratum granulosum is present and well marked. The rete mucosum presents no pathological changes. It is detached from the papillary layer of the corium at both ends of the section; in the center it remained adherent; the point of adhesion corresponds to the mouth of a hair follicle. On examining the specimen under low power there is at once apparent an intense sharply defined cell infiltration. Innumerable nests of varying sizes and shapes filled with deeply stained cells

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are scattered throughout the corium. Their walls consist of fibres of connective tissue. This cell infiltration is most marked around the hair follicles, of which there are several in the section; furthermore, the infiltration is densest near the mouths of the follicles. The papillary layer of the corium shows great overgrowth of connective tissue, between the fibres of which are scattered cells. The papillary blood vessels are obscured from view by this fibrous tissue. These nests of cells extend from the sub-papillary layer down to the deepest portion of the corium. In certain places fibrous connective tissue seems to have replaced previously existing hair follicles and sebaceous glands. The sections in all show but three hair follicles and no sebaceous glands. As the excised skin was quite large and taken from the center of the bearded region it is evident that there is considerable pilo-sebaceous atrophy. The sweat glands appear normal. Numerous sudoriferous ducts are seen coursing through the corium and are for the greater part normal, although a few present some cell infiltration.

The cell infiltrate is composed chiefly of leucocytes, although there also are present cells derived from the connective tissue corpuscles. The round cells, however, are in great preponderance. Giant cells are absent. The examination for tubercle bacilli was entirely negative.

While this affection simulates lupus vulgaris both clinically and pathologically, it is evident that it is not identical with that disease. The cicatricial appearance, the extreme rebelliousness to treatment and the circumscribed cell infiltration are certainly suggestive of lupus; on the other hand, the absence of lupus nodules clinically and the absence of giant cells and tubercle bacilli in the microscopic section prove it to be something else. We agree with Unna in regarding this disease as a distant entity and accept his name "Ulerythema Sycosiform" as the best one from our present knowledge of the disease.

Dr. James C. White, of Boston, read the next paper entitled

THE PREVALENCE OF GERM DERMATOSES.

When this Association was founded, scarcely twenty years ago, the number of individual affections of the skin known to be caused by vegetable parasites was very small, some three or four only—now the list of those, the origin of which has been positively determined to be of this nature, has increased to sixteen or more, and to these may be added six at least which are in all probability of a similar character. Reckoning the number of diseases of the skin, as recognized by this

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Society in its first published list, at one hundred, it appears that twenty or twenty-five per cent. of them are of vegetable parasitic origin. If in this category were also included all the forms of the more common dermatoses which have been in these latest days regarded by certain observers as of this nature, as eczema, psoriasis, seborrhea, pemphigus, etc., this proportion would be greatly magnified. Such claims will, however, be disregarded in this paper.

I have thought that it might be not wholly without interest to present to you a brief report upon the relative prevalence of this class of affections, as illustrated by my clinic at the Massachusetts General Hospital during our last official year, in which 3,581 new patients presented themselves for treatment. They represented several nationalities, twenty perhaps, and many classes of society, including the educated and well-to-do.

(1) Red sweat, one case.

This condition is scarcely entitled to be called a disease, although a cause of considerable annoyance rather from its visible effects upon the underclothing than the appearances it produces upon the hairs of the axillæ. This bacterium, micrococcus prodigiosus, has been said to grow more readily upon blond and red-haired persons. Perhaps more properly stated, it is more easily discovered upon light colored hairs. Its presence may be regarded as a want of proper care of the axillæ. It could scarcely develop upon persons who wash these parts with soap and water daily, but as favoring conditions for its growth may be said to be the rule among dispensary classes and its occurrence is very infrequent, but a single case presenting itself during the year, the germs must be proportionately rare with us. This bacterium is capable of very rapid growth, for the underclothing may be stained over a considerable extent, several inches in circumference, on parts in the neighborhood of the axillæ after being worn but three or four days.

(2) Erysipelas, 35 cases.

The cases of erysipelas which find their way to the skin clinic are generally mild forms affecting the face, where the traumatic origin is not apparent. No doubt, however, that slight abrasions of the cuticle or inappreciable solutions of continuity which accompany inflammatory conditions of eyelids, nostrils, or ears, will account for the entrance of the Fehleisen streptococcus, and the frequent recurrent attacks of the affection in connection with such chronic disorders of the facial orifices. I have frequently put a stop to a long series of recurrences of erysipelas by making the patient give up the habit of continually picking the nose. Such results point to simple persistent or recurrent traumatism, and an omnipresent pervasion of germs as a

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sufficient explanation of recurrent erysipelas, and make the theory of a persistent and attenuated germ virus, *microbisme latent* of the French, unnecessary. The grade of dermatitis in ordinary cases of this type rarely exceeds the erythematous stage, and the active phase of the parasite is brief, judged by the self-limited irritation it excites in any one area of the cutaneous tissues. Its vitality may be almost surely curtailed to a period of two or three days, and the extension of the inflammation checked within the same period, by the application of mild parasiticides. I have continued to obtain such uniformly successful control over it by the method already described before this Association, namely, the constant application of the following wash: carbolic acid, one drachm; alcohol and water, eight ounces of each. I have in several instances made a comparative test of its action and that of ichthyol, so much used for this purpose in some parts of Europe, by applying them simultaneously to different parts of an affected area, and have invariably found the ichthyol far less effective in controlling the extension and duration of the inflammation. I would again comment on the absence of all evidence of the contagiousness of such forms of erysipelas in the clinical history of my cases.

(3) Furunculosis, 59 cases.

The majority of cases of furunculosis occurred in the summer months among infants of the poorer classes as a sequel to heat-rash, eczema, and other forms of dermatitis induced by heated rooms, foul clothing, lack of cleanliness and proper food, most favorable conditions to the admission of staphylococci to the cutaneous follicles, and to their rapid culture and extension by auto-infection over large areas. In the other most frequent clinical variety the affection was limited to some one and quite restricted locality, as the neck or one limb, where infection is conveyed from one follicle to another in succession by the clothing or improper use of poultices or other dressings.

I feel assured that we may gain quite immediate control of every case of furunculosis, however favorable the soil for the development of the staphylococcus under the influence of certain accompanying conditions of the economy, by means of thorough asepsis of the cutaneous surface alone. This may be accomplished by proper washing of the affected areas with a solution of corrosive sublimate, one grain to one ounce, once or twice a day, and by keeping the same constantly covered with a cloth thickly spread with the following ointment: salicylic acid, half a drachm, carbolated cosmoline, one ounce.

(4) Carbunculus, no case.

(5) Pustula maligna, no case.

(6) Impetigo contagiosa, 91 cases; Ecthyma, 18 cases.

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Other very frequent forms of the condition well described by the French school by the title "staphylococcia purulenta cutanea," are the superficial dermatitis we call impetigo contagiosa, and the deeper-seated inflammatory process, ecthyma. Although the lesions of each are distinctively typical, and the diseases are well defined in the main, yet we frequently meet with cases of extensive distribution where the two affections are intimately combined with each other and furunculosis, and in which it is impossible to state to which of them certain of the lesions should be ascribed. They are all caused by the presence of the pyogenic staphylococci, aureus and albus. Differences in the locality and the portion of the cutaneous tissues affected, in the age, temperament, and general condition of the patient will account in a measure, no doubt, for the diversity in the character of the lesions excited by the presence of these germs, but there must also be some as yet unrecognized specific quality in them by which the individuality of the respective affections is kept true, so that impetigo contagiosa, for example, almost invariably reproduces its characteristic lesions upon any part of the surface of the same individual by auto-inoculation, or when transferred to another child of the same family or a playmate. Its association in children with pediculosis capitis is so frequent that I never fail to examine the hair in every case of impetigo contagiosa of the face or hands.

It scarcely needs mention that secondary forms of purulent processes, due to staphylococcia, are constantly observed in the course of many other dermatoses, but we must yet recognize the occurrence of some forms of pustulation and suppurative processes of the skin in which such germs are not found.

(7) Tinea trichophytina, 96 cases.

Under this general title are included all cases of ringworm of the general surface and hairy parts. If we accept the conclusions of Sabouraud, with which you are acquainted, as put forth in his praiseworthy volume, "Les Trichophyties Humaines," recently published, they represent in all probability examples of three or more distinct affections, the individuality of which has been established by differences in the microscopic appearances of the parasite found in them, in its seat, its longevity, and the results of culture and inoculation. He recognizes three principal forms:

First, trichophyton megalosporon (endothrix), the ordinary benign form of the scalp and general surface in children mostly, in which the plant presents certain botanical varieties.

Second, trichophyton megalosporon (ectothrix), which is always of animal origin. Two well-marked clinical forms are recognized by

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Sabouraud: first, that derived from the horse, which is highly pyogenic, producing agminate and circinate perifollicular purulent dermatitis, and the cause of the so-called kerion Celsi, and parasitic sycosis; and second, that contracted from the cat, characterized by its more superficial and vesicular lesions. The results from culture of these two forms are quite distinct.

Third, trichophyton microsporon, in which the parasite is not a true trichophyton, but is the small-spored microsporon Audouini. This is the most common form of the disease in children, the most contagious and rebellious, and the epidemics, which run through schools and asylums and last for many months or years, are said to be of this character. Its seat in the integument is superficial, however, and it causes no permanent baldness.

It would be of great interest if these brilliant studies of Sabouraud could be repeated by some competent worker amongst ourselves to determine if the results to be obtained from material here are identical with his.

A noteworthy variety of parasitic dermatitis which I have had frequent opportunity of observing in members of the "crews," "teams," and other athletes of the undergraduates of my university, affecting the circum-genital regions, and differing from ordinary forms of eczema marginatum and erythrasma of these parts, and which is probably spread amongst them by the careless interchange of clothing used in their sports and towels, deserves mention here, and a proper bacteriological study.

(8) Tinea favosa, 10 cases.

These cases were all of immigrant origin, in Polish-Russian Jews, or Italians. Favus is an extremely rare disease among the native New England population. Were it more contagious, the introduction of so many imported opportunities into our common schools would certainly make it more prevalent. A few instances of permanent alopecia, a sequel to favus, extinct in early life, were observed, as in other years, among the classes above mentioned. On the polymorphism of achorion Schoenleinii I have no comments to offer.

(9) Tinea versicolor, 31 cases.

They presented no noteworthy features.

(10) Erythrasma, one case.

But a single instance of this rare mycosis, caused by microsporon minutissimum, was observed, the first in several years. In my private practice it is of equally rare occurrence.

(11) Tinea imbricata, no case.

No case of Tokelau ringworm has ever been observed in Boston

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within my knowledge. It is interesting to note that Sabouraud regards its parasite as belonging to his class of trichophyton megalosporon.

(12) Actinomycosis, no case.

(13) Mycetoma, no case.

(14) Tuberculosis cutis, 22 cases.

Under this single title all clinical forms have been included, so-called lupus, scrofuloderma, verrucous and gummatous. In several instances two of them were associated, and in one patient all four coexisted. The probable history and source of infection in some of them was determined, one of which I have reported to you in detail at this meeting.* In one or more of them tuberculosis pulmonum also existed, but it is not generally possible to determine whether the bacilli affect primarily the lung or skin tissue. Whenever practicable, I am convinced that the complete removal of all forms of cutaneous tuberculosis by excision is the best method of cure. Every case of every kind should be regarded as a serious menace to the life of the patient and to every member of the household.

(15) Lepra, two cases.

One of the patients was a negro from the West Indies, the other was a Scandinavian girl. The latter represented the second instance, which has occurred to me recently, of a difficult question, both in relation to diagnosis and one's duty to society. Consider two girls, recent immigrants from Norway, at service in families. Both of them present a chronic erythematous condition of the skin of considerable extent, and of no variable or ordinary type. It might well be a prodromal manifestation of leprosy, but there were no other indications of that disease present that could be detected. Had they not been Scandinavians, or were one not familiar with such possible early prodromal conditions, such a diagnosis would probably not have occurred to a physician. Yet I saw in Professor Bœck's wards for lepers in Christiania last year two patients whose only symptoms were one or two erythematous areas of much smaller size. Possibly both my patients would have been at once recognized as unmistakable lepers by such an experienced observer. Now what was my duty? These girls were dependent upon themselves for support. Should I inform the families in which they were living of my suspicions, and cause their dismissal? In this case they would seek service and concealment in some other household, and thus pass out of professional observation. Should I report them to the Board of Health as lepers? I could not

* An Etiological Puzzle, Boston Med. and Surg. Journal, December 5, 1895.

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do this, for no such positive diagnosis was possible, and without it I do not see how they could have been sent back to their native country. We have no house of detention for observation, either State or National, unfortunately. The immediate condition of the girls was not dangerous to their associates certainly. An examination of the affected areas for bacilli was made in both cases, but the results were negative. It proved nothing. The sensibility of the skin was unchanged. I decided to withhold my suspicions, and to keep the cases under observation. I was not forgetful of similiar early indications of mycosis fungoides and sarcoma. One of the cases is beginning to exhibit a few suggestive tubercles within the erythematous areas.

I should be pleased to receive the counsel of my colleagues here as to my duty in these cases, to the patients, to the community, to the health authorities. They will recur to all of us.

Taken together, all the cases of these affections which are to be regarded as of positively parasitic nature number three hundred and sixty-six, or rather more than 10 per cent. of all the new cases presenting themselves for treatment at the clinic throughout the year.

In the second category, affections which are probably caused by a vegetable parasite, the evidence of which is, however, not yet positively established, may be classed the syphilodermata, ulcus molle, some forms of alopecia areata, purpura and mycosis fungoides, of all of which instances in great or small number occurred during the year, the total exceeding those of the first class.

It will be observed then that perhaps 25 per cent. of all cases of skin disease occurring in dispensary practice are probably caused by vegetable parasites, and are, therefore, preventable affections. If to these were added all those produced by animal parasites, this proportion would be greatly magnified.

It seems to me that the importance of these facts should be recognized not only by professional boards of public health and school committees, but that some knowledge of them and of the proper precautions against contagion should be disseminated among the people at large. And what a change have these discoveries brought with them in the making of the accomplished dermatologist, in the teaching of our specialty. Now, much more is necessary than the merely clinical knowledge with some smattering of pathological histology, such as satisfied us older members of this Association in our student days. Then, the size of the clinic, the readiness of the diagnostician, the skill of the practitioner, were the main qualities of the most celebrated schools of dermatology. Now, they are but a part only. The demands of the laboratory have become as great or greater than those

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of the clinic upon the time of the student in our department in the best schools of Europe. He must become thoroughly grounded in the pathological anatomy of cutaneous diseases, and I need not allude here to the diversity of morbid processes to which the skin is subject. It knows them all. Nor is it longer possible to acquire such knowledge at the best under the teachers of general pathology. Fortunately there are those whose special acquaintance with the changes of the cutaneous tissues under disease has made their competency to teach them world-known. The requirements in such a groundwork of dermatological study are well-nigh inexhaustible. One of our most accomplished European colleagues, whose contributions to this department of our specialty have been of great value, pointed to a seat in his private laboratory and said recently to a young student of dermatology, "There is your place for the next two years."

But the bacteriological laboratory makes also a great and necessary demand upon his time, if a requisite knowledge of technique is to be acquired. Its application in this all-important field of inquiry in cutaneous pathology cannot be over-estimated, and we may well believe that the results of such studies are to be as brilliant for the progress of the therapeutics of dermatology as they have already been in etiology.

It is evident that no school of dermatology can remain great that relies upon its past clinical reputation and neglects the teaching of these most essential laboratory departments. Fortunately there is one school where all these branches may be studied in a complete way, and where general dermatology is taught in a broad and liberal spirit by eminent masters with unequalled clinical facilities and a magnificent museum of models. That constitutes a great school. Such is Paris to-day, and there are other places where excellent laboratory instruction may also be obtained, by no means so well known to the student as they deserve to be, as Prag, Breslau, Lille and Bonn. Let us try to make it not impossible before long to add some American schools to the list.

DISCUSSION.

Dr. Bronson thought any one of the several explanations offered by the reader might be correct.

Dr. Shepherd thought the first explanation of wetting the fingers a correct one. We are all breathing bacilli continually; it was only those who were vulnerable that became affected.

Dr. Fordyce spoke of a case of tuberculosis cutis in the finger of a doctor engaged as a professor of the practice of medicine in some medical college, and who had habitually used this finger when percus-

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DISCUSSION UPON DR. WHITE'S PAPER ENTITLED "THE PREVALENCE OF GERM DERMATOSES."

DR. FOX: In the wards of European hospitals, leprous patients can be seen occupying beds side by side with other patients. He hoped the day would come when they would have, not a lazerretto, but some richly endowed institution where these patients will willingly go, and receive the best treatment which science can offer. Until then he thought it wiser to treat such cases without saying anything about them to the public; but in the meantime the profession had a duty to perform, namely, to endeavor to eradicate that insane fear of leprosy which unhappily exists in the minds of the public, and often in the profession itself.

DR. BULKLEY: He had two lepers at his home recently, which had been brought to the Dermatological Society's meeting. He had seen a bad surgical case of the disease 25 years ago in the New York Hospital, where a limb had to be amputated. In the private hospital of Dr Unna, in Hamburg, he had slept in the same house with lepers, and while the speaker was present he had noticed the doctor's own child playing in the garden with a little leprous child. In the New York Skin and Cancer Hospital they had leprous patients not infrequently. In one instance, the nurse who attended one of them got married, went to Long Island to live and took the patient away to her new home, where he remained for some time. No infection ever occurred, nor had any resulted from the case of ulcerating tubercular leprosy, referred to as in the New York Hospital 25 years ago. He had a number of cases in private practice in different stages—especially the erythematous stage, and never knew of anyone to contract the disease from them. As to Dr. White's case, he felt sure there was no danger. Of course, as to syphilis, he thought there was danger of contagion. In the New York Academy of Medicine, they had at one meeting shown thirteen lepers, without any notice having been taken of the matter of any danger from infection.

DR. HYDE: He thought there was more than one aspect to this subject. He had a leper in his practice who was occupied in a laundry receiving and giving out linen. Was it right to leave that man in such a position? He had thought it well to speak privately to the chairman of the Board of Health of Chicago, and Dr. Hyde thus secured himself in case the facts became known and contagion took place. He thought Dr White's position was a delicate one. What would the public think if it became known that Dr. White had a leprous patient whose disease was recognized, and whose occupation was known to be that of a domestic servant, and yet the doctor kept silence? The speaker had a dread of these cases when they occurred in his city, not because he feared the disease, but was afraid that the newspapers would get hold of them. As to the laundryman referred to, he continued unmolested at his work while he remained in Chicago; he then left for his home in Sweden, where he remained for some time, when making up his mind to return to America, he came back to

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Chicago and finally died there of leprosy. This spoke ill for the acuteness of the port physicians, who twice allowed him to go through their hands.

Dr. Sherwell: He thought Dr. White, or anyone in his position, should protect himself in some way; either by having a private talk with the patient herself, or calling in some other members of the profession with whom he could share his responsibility. It must be remembered that we have a duty to perform, not only to the community but to the private individuals who employ such patients. He had treated a great many cases of leprosy, some of his patients being medical men, who lived with their families and who had removed from South America. In such instances he thought there was no necessity to report the matter to the health authorities and had not so done, in view of its infinitesimal chances of contagion.

Dr. Shepherd: He would rather not have any leprous servants in his family. Nor would he willingly keep a consumptive or syphilitic servant. What he would not be willing to risk himself, he would not ask others to do, therefore he should feel it his duty to report such cases to their employers.

Dr. Elliot: Can any member present state with absolute certainty that a case of leprosy was ever communicated by contagion? He knew of none. The British Medical Association, in an investigation on this very subject, sent circulars out over the entire world asking for authenticated cases of contagion. No case was known. What then is the use of making such a fuss about contagion? In his experience in New Orleans, he has known cases of ulcerating leprosy inmates for years in the hospital, taken care of by the same nurse and their sores dressed twice daily. The nurse is there still, the cases are dead, but they never communicated the disease to anyone. They were kept in a separate ward simply as a matter of convenience, not for the purpose of isolation. There is altogether too much fear of public opinion in dealing with the subject of leprosy, and he thought we should fight against it.

Dr. White: Did Dr. Elliot ever have knowledge of syphilis being communicated from one case to another, except by intercourse?

Dr. Elliot said he did. A woman, for instance, came to him with mucous patches of the mouth and a papular eruption on the body. A man suffering from syphilis had bit her on the hand three months previously and the chancre had developed there. The speaker warned her against the danger of communicating the disease to others, and especially against kissing. This young woman has a great friend from whom she had been separated for some time, and meeting they kissed each other frequently. A few weeks later the girl friend having contracted the disease, comes to him with a chancre of the lips. Here is a series of cases that prove contagion.

Dr. White: Everybody does not get syphilis in spite of its contagiousness. So everybody does not contract leprosy who is exposed to it; but a great many people do get leprosy in this way.

To argue its non-contagiousness from the number who escape it after being in contact with the disease is nonsense. It is only nega-

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tive evidence at most, which is of no value; what we want is positive evidence, and we have sufficient.

DR. ELLIOT: We have the most absolute and positive evidence of the communicability of syphilis from the inoculations which have been made a great many times. He mentioned the report of 70 cases published by Pfalzer who had inoculated syphilis in 70 instances from all stages of the disease and had produced syphilis. There is direct evidence. Can any one bring forward any such evidence in the case of leprosy?

DR. GRAHAM: He suggested that fifteen years ago the same thing might be said of tuberculosis, as Dr. Elliot was now saying of leprosy. But inoculations of tuberculosis had since been made.

DR. SHEPHERD: He saw a case of leprosy following vaccination, the disease appearing on the "mark." He thought they had inoculated leprosy in the Sandwich Islands.

DR. HERTZELL: As far as the Sandwich Island case is concerned, it was proven that leprosy had existed in that man's family for some years before the inoculation experiment had been made; the value of the case was considerably impaired thereby.

DR. WHITE: He believed the contradiction of the Sandwich Island case was made by some one who had no accurate grounds for making the statement he did.

The discussion now beginning on page 58 belongs to Dr. White's paper "An Etiological Puzzle" on page 168.

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sing. A couple of years previously bacilli were found in his lungs; and it was always a question to the speaker as to whether the bacilli in the lesion on the finger were derived from the lungs, or whether they appeared independent of the lung lesions by reason of the irritation of the part.

Dr. Hartzell had a tubercular case of undoubted local infection. The child's father had recently died of consumption (three months previously). The lesions on the child were one at the meta-carpo phalangeal joint of the thumb, another upon the knee, and another upon the opposite leg; in fact, in just such situations as would be likely to become infected when crawling over the floor. The suggestion was obvious.

Dr. Graham recounted the history of a case of a young lady patient of his affected with phthisis who was nursed by her mother, who, contrary to instructions, washed the handkerchiefs, etc., used by her daughter in expectoration. She developed several tuberculous sores about the knuckles and three or four months afterwards also developed phthisis. She died within two years. He often thought that the primary disease here developed in the hands, and that the condition of the lungs was secondary.

Dr. Klotz: To show that danger from infection with tuberculosis was existing not only in our domestic surroundings but on a much wider scale and often under circumstances where precaution was almost impossible, he wanted to mention an observation made two years ago. A strong, healthy man, about forty-five years of age, had been in the Adirondacks in June. While fishing he had been badly bitten in the face by black flies. Most of the bites healed, but one did not, but increased in size and lately several new lesions had appeared on the surrounding skin. The patient presented a small number of typical lupus nodules on the right cheek below the eye. On being questioned he stated that he had been in the vicinity of Saranac Lake, where numbers of tuberculous patients gather. It seemed not improbable that the insects had been the bearers of the tuberculous virus.

Dr. Sherwell called attention to the fact of the high degree of exposure butchers, as a class, were subjected to in the way of tuberculosis and yet he was not aware that they were more noted than those of other trades for being affected with this disease.

Dr. White: He found in his experience that butchers and autopsy makers were the most common subjects of tuberculosis of the hands.

Scientific Session, 10 A. M., Sept. 18th, 1895.

Dr. Hyde read a report of the Committee on Statistics.

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REPORT OF THE COMMITTEE ON STATISTICS

OF THE

AMERICAN DERMATOLOGICAL ASSOCIATION,

For the year 1894, from *January 1st* to *December 31st*, inclusive.

The total number of cases of skin disease reported to the Association for the year ending December 31st, 1894, is 24,321, contributed by members from Boston, Brooklyn, Canada, Chicago, Cleveland, New York, Philadelphia and St. Louis. The large majority of these cases are tabulated on the alphabetical blanks furnished by the Association. Forty-seven titles only have been added by individual contributors for their own convenience. Two of these titles are not dermatological, twelve could have been properly classified on the Association blanks under appropriate headings, of the remainder the following only deserve special mention: Dysidrosis, follicitis decalvans, lichen scrofulosorum, infective granuloma, oedema circumscriptum chronicum, tylosis palmaris and Raynaud's disease.

In glancing over the tables it is a source of satisfaction to discover that at last the cases reported from the New York district are reaching in almost every title the preponderance as to numbers which should have been apparent at the outset of the work of this Committee years ago. In only a few instances are the numbers reported from other districts in excess of those contributed by New York. For example, the total number of cases of scabies on the list is 999 of which New York reports almost one-half, viz.: 413, Boston and Chicago following with 242 cases, Philadelphia next with 146; none others reporting as many as sixty cases.

The following are among the exceedingly rare affections seen by members during the year: Actinomycosis of the skin, 2; angioma cavernosum, 2; asteatosis, atrophia pilorum propria, erythrasma, adenoma, argyria, dermoid cyst, erythema iris, infective granuloma, xeroderma pigmentosum, rhinophyma, uridrosis and fungus haematodoes, one each.

No cases have been observed during the year by members of the Association, of Sclerema neonatorum, rhinoscleroma, pemphigus neonatorum, anthrax maligna, myoma, pellagra, and impetigo herpetiformis.

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A slight study of the more common affections of the skin as contributed for these lists is suggestive. The total number of cases of eczema reported is 6,270. If we include with these all the cases of dermatitis and the dermatoses not widely differentiated from these we have a total of 7,325 cases. The cases of acne, reported as such, number 2,261, but if we add to these the other disorders of the sebaceous glands usually grouped together with acne by French writers we have a total of 3,592. The disorders produced by the animal and vegetable parasites, using these terms as they have heretofore been employed for purposes of classification, number 2,975, and lastly the cases of syphilis are represented by the figures 2,454. These figures make a total of 17,497, or more than two-thirds and almost three-fourths of all cases reported. It follows that between 71 and 72 per cent. of the clinical work of the American dermatologist is concerned with the treatment of the superficial inflammations of the skin, with the group of acneiform disorders, with those produced by animal and vegetable parasites and with syphilis of the skin—fortunately a class of disorders for the most part amenable to skillful treatment and the classification of which offers no very serious problem to the scientist. If we look at the respective proportions in this percentage of between 71 and 72 per cent. of the several groups of diseases indicated above, we find that nearly one-half represent the superficial inflammatory dermatoses, nearly one-fourth the acneiform group, nearly one-sixth the disorders produced by the animal and vegetable parasites and about one-seventh the cases of syphilis.

Of the 28 or 29 per cent. of cases not falling within the large groups here outlined, the great majority is made up first of cases of urticaria, which might perhaps have been included in the inflammatory group outlined above; next an impetiginous group including contagious forms which might have been similarly assigned; next cases of furunculus which might also be well included in some of the other disorders catalogued, and lastly, in the order of frequency, psoriasis, herpes simplex and herpes zoster, pruritus cutaneus, epithelioma and hypertrichosis. Subtracting the figures representing these diseases from the grand total, there are left 3,107 cases of the rarer cutaneous affections, or about one-eighth of all cases observed.

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AMERICAN DERMATOLOGICAL ASSOCIATION.

Returns for the Year 1894,

From January 1st to December 31st, Inclusive.

Classification of Diseases.	Boston.	Brooklyn.	Canada.	Chicago.	Cleveland.	New York.	Philadelphia.	St. Louis.	Total.
Abscess	....	22	....	....	....	19	....	....	41
Acne atrophica	....	....	....	....	2	3	....	....	5
Acne	644	89	123	174	39	916	118	158	2261
Actinomykosis	....	....	....	1	....	1	....	....	2
Adenitis	....	1	....	....	....	2	....	....	3
Adenoma	....	....	....	....	....	1	....	....	1
Albinismus	....	....	....	....	....	3	....	....	3
Alopecia	97	....	11	69	2	41	3	62	285
Alopecia areata	43	18	14	26	5	54	12	11	183
Alopecia furfuracea	95	12	10	19	7	9	....	73	225
Alopecia prematura	....	7	....	....	....	....	....	....	7
Anæsthesia	....	....	....	....	....	....	....	....	....
Angioma	17	....	....	5	1	20	....	33	76
Angioma cavernosum	....	....	....	....	1	1	....	....	2
Anidrosis	....	....	....	....	....	....	....	....	....
Anthrax simplex (carbuncle)	....	5	7	2	....	10	2	3	29
Anthrax maligna	....	....	....	....	....	....	....	....	....
Argyria	....	....	....	....	....	1	....	....	1
Asteatosis	1	....	....	....	....	....	....	....	1
Atrophia maculosa	1	....	....	....	....	....	1	....	2
Atrophia pilorum propria	1	....	....	....	....	....	....	....	1
Atrophia senilis	....	4	1	....	....	1	....	1	7
Atrophia striata	....	1	....	....	....	1	....	....	2
Atrophia unguis	3	....	....	....	....	5	....	....	8
Bromidrosis	1	5	....	4	....	11	1	4	26
Bunion	....	....	....	....	....	1	....	....	1
Bursitis	....	4	....	....	....	....	....	....	4
Callositas	14	1	1	....	....	13	1	4	34
Canities	3	1	1	1	....	1	....	2	9
Carcinoma	....	3	....	....	1	6	....	2	12
Chloasma	12	8	3	10	1	28	3	12	77
Cellulitis	....	....	....	....	....	46	....	....	46
Chromidrosis	....	....	....	....	....	4	....	....	4
Cicatrix	....	5	1	1	....	4	....	2	13
Clavus	1	2	....	1	....	11	....	....	15
Comedo	15	16	9	10	15	189	9	18	281

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CONTINUED.

Classification of Diseases.	Boston.	Brooklyn.	Canada.	Chicago.	Cleveland.	New York.	Philadelphia.	St. Louis.	Total.
Cornu cutaneum	3	1	....	1	....	1	....	....	6
Cyst	....	....	3	....	....	1	....	....	4
Dactylitis	....	1	....	....	....	....	....	....	1
Dermatalgia	....	3	....	....	....	3	....	....	6
Dermatitis	175	....	1	....	....	10	....	....	186
Dermatitis calorica	4	6	2	38	....	58	74	....	182
Dermatitis exfoliativa	1	6	1	....	2	3	....	2	15
Dermatitis gangrænosa	1	9	....	....	....	12	....	....	22
Dermatitis herpetiformis	10	4	3	....	....	20	....	6	43
Dermatitis medicamentosa	11	8	3	6	3	58	8	....	97
Dermatitis multiformis	1	....	....	....	....	....	....	....	1
Dermatitis papillaris capillitii	....	5	....	....	1	....	1	....	7
Dermatitis traumatica	1	20	2	7	6	101	....	....	137
Dermatitis venenata	130	12	4	8	1	161	57	8	373
Dermoid cyst	....	1	....	....	....	....	....	....	1
Dysidrosis	....	9	....	....	....	1	....	....	10
Ecthyma	18	5	5	2	1	24	12	2	69
Eczema:	1685	237	370	373	92	2617	586	310	6270
a. erythematosum	....	....	....	....	....	....	....	....	....
b. papulosum	....	....	....	....	....	....	....	....	....
c. vesiculosum	....	....	....	....	....	....	....	....	....
d. madidans	....	....	....	....	....	....	....	....	....
e. pustulosum	....	....	....	....	....	....	....	....	....
f. rubrum	....	....	....	....	....	....	....	....	....
g. squamosum	....	....	....	....	....	....	....	....	....
Eczema seborrhoicum	....	....	....	....	9	69	....	....	78
Elephantiasis	2	....	1	....	2	3	....	2	10
Epithelioma	39	24	5	37	3	59	12	25	204
Equinia	....	....	....	....	....	....	....	....	....
Erysipelas	48	4	3	10	1	67	5	....	132
Erythema induratum	1	....	....	....	....	....	....	....	1
Erythema multiforme	29	16	4	....	1	73	2	12	137
Erythema nodosum	7	4	2	1	....	19	....	2	35
Erythema iris	....	....	....	....	....	1	....	....	1
Erythema simplex	19	18	4	19	9	107	3	6	185
Erythrasma	....	....	....	1	....	....	....	....	1
Exanthem	1	....	....	....	....	....	....	....	1
Fibroma	1	5	....	3	....	12	2	2	25
Frambœsia	....	....	....	....	....	....	....	....	....
Furunculus	91	18	4	26	2	261	18	29	469
Folliculitis	....	....	....	2	....	45	....	....	47
Folliculitis decalvans	....	....	....	....	....	2	....	....	2

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Classification of Diseases.	Boston.	Brooklyn.	Canada.	Chicago.	Cleveland.	New York.	Philadelphia.	St. Louis.	Total.
Fungus hematodes	....	....	....	....	....	1	....	....	1
Granuloma fungoides	2	2	....	....	....	....	....	1	5
Herpes progenitalis	....	2	....	....	....	....	....	....	2
Herpes simplex	45	9	4	44	4	73	3	4	186
Herpes zoster	70	13	14	15	4	93	25	11	245
Hydrocystoma	....	....	3	....	....	....	....	....	3
Hyperæsthesia	2	....	....	....	....	3	....	....	5
Hyperidrosis	26	2	1	4	....	47	7	6	93
Hypertrichosis	43	2	2	19	5	21	2	43	138
Hypertrophy of lip	....	....	....	....	....	2	....	....	2
Ichthyosis	13	3	3	3	....	20	....	2	44
Ichthyosis congenita	....	1	....	....	2	....	....	....	3
Icterus	....	3	....	....	....	....	....	....	3
Infective granuloma	....	....	....	....	....	1	....	....	1
Intertrigo	....	....	....	....	....	2	....	....	2
Impetigo	28	8	12	10	1	35	....	....	94
Impetigo contagiosa	141	24	43	5	5	275	175	4	676
Impetigo herpetiformis	....	....	....	....	....	....	....	....	....
Keloid	2	2	1	1	....	10	2	5	23
Keratosis follicularis	1	....	....	2	....	2	....	....	5
Keratosis palmaris	....	2	....	1	....	....	....	....	3
Keratosis pilaris	5	3	2	1	1	21	....	....	33
Keratosis senilis	32	....	....	....	9	3	....	11	55
Lentigo	1	2	....	....	1	3	2	21	30
Lepra	1	1	....	....	....	1	....	....	3
Leucoderma	2	2	1	1	1	20	....	5	32
Leucoplakia	....	1	....	....	....	1	....	....	2
Lichen planus	15	4	7	44	1	32	1	8	112
Lichen rnber	....	....	....	....	....	....	....	....	....
Lichen scrofulosus	....	4	....	....	....	....	....	....	4
Lipoma	....	....	1	....	....	2	....	....	3
Lupus erythematosus	18	11	7	8	3	41	3	6	97
Lupus vulgaris	6	13	12	2	3	34	1	7	78
Lymphangioma	....	....	....	....	....	2	....	....	2
Lymphangitis	....	5	....	....	....	....	....	....	5
Melanoderma lenticularis progressiva	1	....	....	....	1	1	....	....	3
Milaria rubra	3	1	1	....	....	62	....	....	69
Milium	3	1	5	....	2	16	4	....	31
Molluscum epitheliale	10	3	1	....	....	24	1	1	40
Morbilli	1	....	6	....	....	14	....	....	21
Morphœa	....	1	1	2	1	2	....	1	8
Myoma	....	....	....	....	....	....	....	....	....

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Classification of Diseases.	Boston.	Brooklyn.	Canada.	Chicago.	Cleveland.	New York.	Philadelphia.	St. Louis.	Total.
Myxœdema	....	2	....	....	....	....	....	....	2
Nævus fibrosus	....	....	....	....	....	2	....	....	2
Nævus pigmentosus	9	4	1	7	3	10	1	28	63
Nævus pilosus	....	2	....	....	2	6	....	10	20
Nævus vascularis	2	24	2	6	2	20	1	....	57
Neuroma	....	....	1	....	1	2	....	....	4
Onychia	....	....	....	....	....	1	....	....	1
Œdema circumscriptum acutum	....	1	2	....	....	14	....	....	17
Onychauxis	....	5	....	2	2	10	2	....	21
Pachydermatocele (or Dermatolysis)	1	....	....	....	....	8	....	....	9
Paget's disease	....	....	....	....	....	1	....	....	1
Papilloma	....	....	....	....	....	12	....	....	12
Paryonichia	....	10	....	....	....	22	....	....	32
Pediculosis capillitii	257	1	35	5	4	244	37	5	588
Pediculosis corporis	18	14	15	11	2	100	26	10	196
Pediculosis pubis	9	....	1	6	2	29	4	....	51
Pellagra	....	....	....	....	....	....	....	....	....
Pemphigus	2	2	4	6	4	5	....	1	30
Pemphigus neonatorum	....	....	....	....	....	....	....	....	....
Pernio	....	1	....	....	....	12	....	....	13
Phlegmona diffusa	....	....	1	....	....	4	....	....	5
Pityriasis capitis	....	....	....	....	....	1	....	....	1
Pityriasis maculata et circinata	28	3	7	7	....	21	....	6	72
Pityriasis rubra	....	2	1	....	....	....	....	....	3
Pityriasis rubra pilaris	1	2	2	1	....	2	....	1	9
Pityriasis simplex	....	6	....	....	....	....	....	....	6
Pompholyx	2	....	....	....	....	14	....	3	19
Prurigo	3	2	....	....	....	11	1	....	17
Pruritus	94	18	26	66	16	83	....	44	347
Pruritus hiemalis	....	....	....	....	....	....	1	....	1
Psoriasis	150	56	....	91	16	257	....	59	629
Purpura:	9	3	54	2	....	....	....	1	69
a. simplex	2	....	1	3	....	10	2	....	18
b. hæmorrhagica	1	....	....	....	....	15	....	....	16
Raynaud's disease	....	2	....	....	....	....	....	....	2
Rhinophyma	....	1	....	....	....	....	....	....	1
Rhinoscleroma	....	....	....	....	....	....	....	....	....
Rosacea:	....	45	....	24	6	242	22	34	393
a. erythematosa	55	30	21	13	1	61	....	....	181
b. hypertrophica	....	....	1	....	1	6	....	....	8

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Classification of Diseases.	Boston.	Brooklyn.	Canada.	Chicago.	Cleveland.	New York.	Philadelphia.	St. Louis.	Total.
Rubeola (German measles)	....	2	....	....	....	8	....	....	10
Seborrhoral dermatitis	....	....	....	....	....	6	....	....	6
Sarcoma	3	3	....	1	....	....	....	1	8
Scabies	242	59	20	46	44	413	146	29	999
Scarlatina	1	1	....	....	....	4	....	....	6
Sclerema neonatorum	....	....	....	....	....	....	....	....	....
Scleroderma	2	1	....	1	....	5	2	....	11
Scrofuloderma	7	20	2	....	2	14	....	16	61
Seborrhœa:	99	22	....	16	2	51	....	28	218
a. congestiva	....	....	6	....	7	....	....	....	13
b. oleosa	....	13	29	....	18	22	....	....	82
c. sicca	29	....	20	11	....	64	34	....	158
Steatoma	1	15	....	1	....	19	....	....	36
Sudamen	....	....	....	....	....	7	....	....	7
Sycosis vulgaris	35	7	10	11	3	69	6	17	158
Syphiloderma	499	92	77	488	103	998	87	110	2454
Tattoo	....	....	....	....	....	1	....	....	1
Telangiectasis	....	....	....	....	....	3	....	....	3
Tinea favosa	13	2	3	8	2	35	15	....	78
Tinea trichophytina:	129	28	3	2	....	....	....	....	162
a. circinata	21	....	19	9	7	116	27	5	202
b. tonsurans	20	9	60	6	17	163	28	14	317
c. sycosis	18	....	3	24	7	125	3	3	183
Tinea versicolor	14	4	13	20	3	119	13	23	209
Trichorrexis nodosa	....	....	1	....	....	....	....	....	1
Tuberculosis cutis	3	....	....	....	....	18	....	....	21
Tumors	....	6	....	....	....	....	....	....	6
Tylosis palmaris	....	2	....	....	....	....	....	....	2
Ulcus cruris	....	....	30	....	....	....	....	....	30
Unclassified	....	9	....	....	....	83	....	....	92
Ulcera	4	4	....	....	3	106	....	....	117
Uridosis	....	....	....	....	....	1	....	....	1
Urticaria	217	10	45	31	6	439	65	18	831
Urticaria pigmentosa	1	1	....	1	....	....	....	....	3
Vaccinia	9	6	6	1	....	4	....	....	26
Varicella	9	3	6	....	2	51	12	....	83
Variola	....	1	....	4	4	8	....	....	17
Verruca	54	11	16	32	3	67	4	23	210
Vitiligo	6	1	....	16	1	7	5	....	36
Xanthoma	6	3	3	....	....	3	....	1	16
Xeroderma	....	....	....	....	....	1	....	....	1
Xerosis	3	3	4	2	....	....	....	....	12
Xeroderma pigmentorum	....	....	1	....	....	....	....	....	1
								Total	24,321

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Dr. Morrow moved that the thanks of the association be tendered the chairman and members of this committee, for their excellent report. Seconded by Dr. Klotz and carried.

The following paper was read by Francis J. Shepherd, M. D., of Montreal:

A REMARKABLE CASE OF PURPURIC ERUPTION ENDING IN GANGRENE, APPARENTLY CAUSED BY SODIUM SALICYLATE.

Having had under my care during the past summer a very unusual case of skin eruption, supposed to be caused by the ingestion of sodium salicylate, I thought a report of it would interest the members of this association. I am indebted to my house surgeon, Dr. Byers, for the careful notes taken of this case.

William B., hotel porter, aged thirty-two, was admitted into the Montreal General Hospital, May 8, 1895, complaining of pain and swelling in the left knee-joint. Patient is a well-made man of medium stature, somewhat addicted to alcohol. Had typhoid fever six years ago, and a year later several severe attacks of renal colic, for which nephrotomy was performed. He never had syphilis, gout or rheumatism. Two days before entrance into hospital, had received a severe blow on the knee, which was followed almost immediately by swelling, pain, and heat in the joint.

On examination the left knee exhibited all the characteristics of an acute synovitis. As there was no history of gonorrhœa or any other condition tending to a synovitis, the diagnosis of traumatic synovitis was made and appropriate treatment adopted. With the exception of the knee joint lesion the patient was perfectly healthy.

The next day after admission the patient's temperature, which had previously been normal, rose to 100° F., but there was no aggravation of the knee symptoms.

Three days after entrance the heat, swelling and pain disappeared from the left knee, but now the right knee was becoming affected. It was slightly swollen, red, and very painful. Thinking the case was one of acute rheumatism, and waiting his transference to the medical wards, the house surgeon ordered twenty-grain doses of sodium salicylate to be taken three times a day. After three doses had been taken (one drachm), an eruption appeared on the body and extremities looking very much like urticaria. Distinct wheals were seen, but there was not much itchiness. Successive crops of these urticarial spots coming out, the administration of the drug was discontinued.

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The spots now became petechial, and were raised above the surface and considerably indurated (Fig. 1). The spots went through the usual

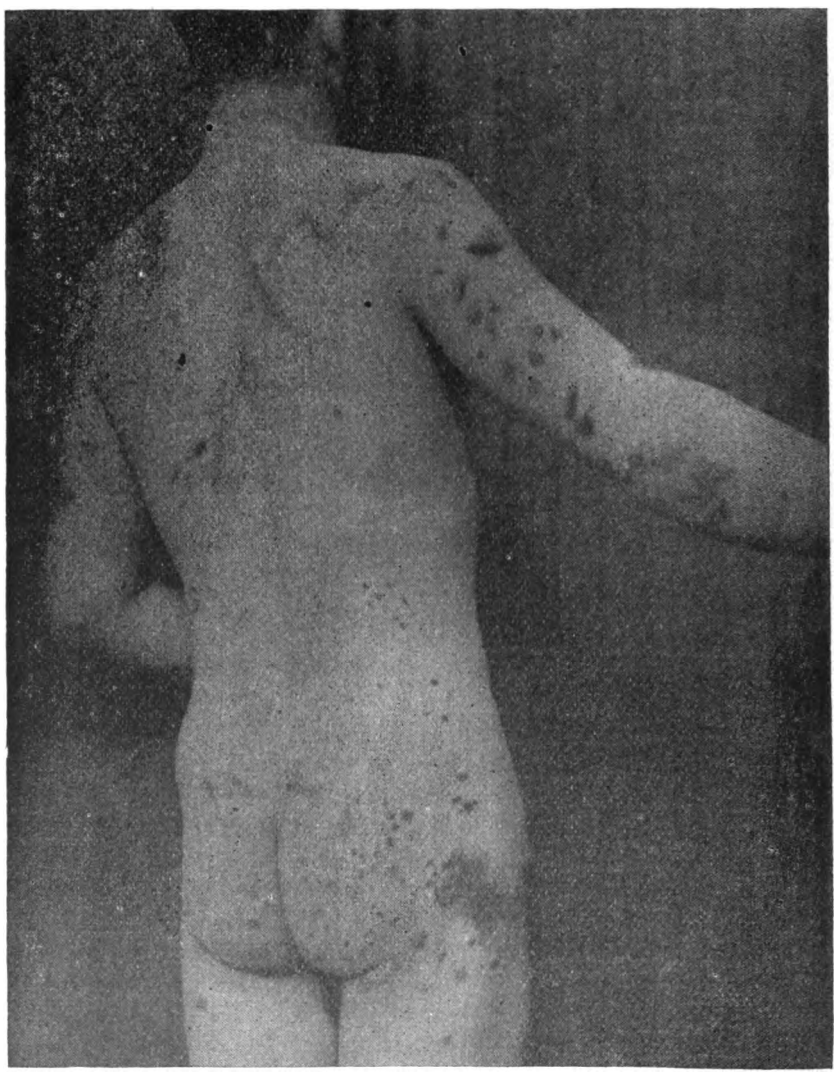

FIG. 1.

chromatic changes following extravasation of blood, and coincidently the induration altogether disappeared. At a few points the hæmor-

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rhagic extravasation was so great that the vitality of the skin was destroyed, and a deep slough resulted, which on separating left a well-marked ulcer which was very slow to heal. The eruption affected all superficial parts of the body except the palms of the hands and soles of the feet. In addition to this the mouth, soft palate, tongue, pharynx, and larynx were all the seat of the eruption, which caused a great deal of œdematous swelling and led to alarming symptoms of impending suffocation, and for some days the patient was unable to swallow anything but liquid food, and that in only very small quantities. Myalgic and arthralgic pains accompanied the eruption. The heart was normal throughout the course of the case, and once only was a trace of albumin found in the urine. There was never any blood or pus in the urine, nor was there any disturbance of the bowels. The whole period occupied by the disease from the onset to the disappearance of the eruption was thirty-three days.

Such is the general account of the case, as to the distribution of the eruption and its appearance.

As was noted, almost every part of the surface of the body except the palms of the hands and the soles of the feet was affected at some time or other during the course of the disease. The eyelids were so swollen that the patient could not see out of his eyes, and the prepuce was much enlarged, discolored, and œdematous. The tongue, mouth, and pharynx were similarly affected, large extravasations occurred in the soft tissues of the palate and pharynx, and many sloughy spots were seen as a result of the severe hæmorrhage. This gave rise to difficulty and severe pain in swallowing. The larynx, owing to the condition of the mouth, could not be examined with the laryngoscope, but the voice was much altered and severe dyspnœa occurred at times, showing that the conditions existing in the mouth were also present in the larynx.

The eruption first appeared on the right leg, thigh, left leg, and left elbow. Then the trunk became affected, and the backs of the arms, the face, and mouth. The shoulders next were the sites of the eruption, and here it was more severe than anywhere else (Fig. 2). About the neck, shoulders, and upper arms the extravasation following the urticarial wheals was so great that large sloughs were formed. The eruption was much more extensive on the posterior than the anterior surface of the body. The scapular region and nape of the neck, back of arms, back, buttocks, backs of thighs, and calves of legs were especially affected; indeed, in every part where there was much pressure the rash was thickly distributed. On the anterior surface the only

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parts affected were the face, upper part of thorax, shoulders, thighs, and dorsum of right foot, and in no place was the eruption very abundant. Over the shoulders and arms the eruption was most violent, the extravasations leading to necrosis of the skin. Several crops of

FIG. 2.

eruption came out from time to time, but none was so severe as the first.

When the spots first came out they had exactly the appearance of urticaria, the wheals varying in size from a ten to a fifty-cent piece and elevated above the surface of the skin. At times they were slightly itchy, and the patient complained of stinging sensations. Soon after their appearance the spots became markedly infiltrated, and the

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surrounding tissue was slightly œdematous. In some regions, the arms especially, the swelling was acute and associated with tenderness and pain, probably due to the tension. Within twelve hours the infiltrated spots showed blood extravasation. They had at first a pinkish color, with here and there a central spot of a darker shade. In some instances the whole spots became dark from extravasated blood. In another forty-eight hours the infiltration had disappeared, and the color changes in the spots had commenced. These were very striking, the body being covered with brown, red, and coffee-colored spots. In many places, where several wheals had run together, a large, irregular, sharply defined spot was seen. The extravasated blood in the greater proportion of the eruption was rapidly absorbed, and the spots gradually disappeared, going through the different color stages of a bruise; but in certain places, instead of the extravasation being of moderate extent, it continued to increase and finally destroyed the part, forming deep sloughs, which slowly separated from the tissues below. This local gangrene, which occurred in the mouth and pharynx as well as on the surface, was most marked about the right and left shoulders and upper arms. In these latter spots the process was very rapid. First, large, irregular, and raised patches were seen, much indurated and very painful. These patches were in size from a fifty-cent piece to the palm of the hand, the larger patches being due to the fusion of several smaller ones. The central portion was of a dark purplish color, fading gradually to bright crimson, pink, and pale pink. The tenderness and pain as well as the inflammatory areola were marked. Later, the central portions of the spots became quite black, and blebs appeared on the surface, and soon a line of demarcation formed, and the dead began to separate from the living. During the separation of the sloughs the patient had a rise of from two to three degrees of temperature and felt ill and miserable. As the sloughs separated, his condition improved, and he was discharged from the hospital about the middle of June, with healthy granulating ulcers, which were dressed from time to time, and did not completely heal until September last. The patient has had no pain in joints and limbs since leaving hospital. That salicylate of sodium is the cause of skin lesions is well known. After the administration of this drug the appearance of erythema or urticaria has been frequently noted; in some cases intense itching has been the chief symptom, and cases of oedema of the eyelids following its use have also been reported. Freudenberg (*Berlin. klin. Woch.*) reports a case in which a petechial eruption occurred after the taking of five grammes (seventy-five grains) of sodium salicylate. These petechiæ were intensely itchy, and some were the size of a fifty-cent

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piece. They occurred on the back at first, but afterward spread to the breast, shoulders, upper arms, hips, and thighs. After eight days the spots became paler, and the epidermis desquamated in large scales. Of course, some might contend that my case was not one of drug eruption, but one of those rare forms of peliosis rheumatica known as erythema purpuricum. Hutchinson calls it purpura thrombotica. In some of these cases the hæmorrhage is severe enough to destroy the skin and cause a slough. It is said that the rash of this affection occurs chiefly in the legs, and is more often seen in women.

The pains in the limbs, the swellings in the joints, and the duration of the case would perhaps render this diagnosis probable, but still the fact remains that until the drug was administered no sign of any skin affection was seen, and the purpura was preceded by a well-marked urticarial rash. Again, the hæmorrhagic condition existed in the mucous membranes or under the skin. Still, there is no doubt much to be said in favor of the diagnosis of peliosis rheumatica, and since the case occurred I have been daily more inclined to come to the conclusion that the eruption was not due to the sodium salicylate alone.

DISCUSSION.

Dr. Elliott: After acknowledging the interest of the case, expressed himself as favoring Dr. Shepherd's original idea as to the cause, viz: that it resulted from the administration of the Sodium Salicylate, and he does not think it a manifestation of peliosis rheumatica.

Dr. Klotz said he could not understand why it was contended by several of the members that in the presence of gangrene we must exclude the diagnosis of peliosis rheumatica. He was not prepared to state whether observations of gangrene or sloughing in peliosis rheumatica had ever been published. But it certainly was a part that in this affection we have to do with hemorrhage, and given hemorrhage we have at once a condition favorable to the formation of gangrene and it was only a question of the intensity and of the extent of the process whether it would follow or not.

Dr. Buckley never remembered a lesion of peliosis rheumatica where the lesion broke down, whereas in drug eruptions we have sloughing. In the absence of any other explanation, he inclines towards the opinion that it was artificial and produced by the Sodium Salicylate.

Dr. Bronson thought this an extremely interesting as well as puzzling case. He thought the diagnosis should be a composite one, peliosis rheumatica modified by the use of the drug salicylate of soda. Peliosis rheumatica never as far as he knew caused gangrene, although it might account for the hemorrhage. It seemed to him that a dyscrasia must have been caused by something else. Salicylate of

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soda might easily modify previous disease so as to produce those extensive hemorrhages, echmyoses, etc., ending in gangrene.

Dr. Robinson was not prepared to state the cause, but does not think it a case of peliosis rheumatica, a disease which he considers incapable of producing such a condition.

Dr. Zeisler agrees with those who are opposed to considering it a case of peliosis rheumatica, as it is contrary to all we know of that disease. Thinks it an extraordinary eruption produced by sodium salicylate, and believes that it is a unique case in this direction. He does not know of any such case having been recorded as resulting from sodium salicylate.

Dr. Wigglesworth thought it a question of post hoc non propter hoc; certain conditions give certain results. He did not care about joining in what seems to be guessing on the part of the members. He was simply not in a position to form an opinion under the circumstances.

Dr. Graham thinks it may be of a rheumatic character. Although the germ has never been isolated, we know that rheumatism is an infectious disease. Some of the most extraordinary symptoms result from it, profound nervous trouble, hyperpyrexia, etc. It is therefore possible that some such condition as this might be produced; or in conjunction with the rheumatism we might have some other non-detected organism present as a cause.

Dr. White: In his knowledge the case is unique. We have to consider the affections it most closely approaches, not what it is. One might think of three affections in connection with these symptoms.

(1) Peliosis rheumatica, but the distribution and outcome of the disease are entirely at variance with that affection.

(2) Drug eruption: although these have no bounds set to them, and our knowledge of them is at present very limited, it would not be warrantable to conclude that it might be a manifestation of salicylic acid poisoning. Any of the cases of salicylic acid irritation of the skin which he had seen, never approached anything like this in severity.

(3) The next affection to be considered is a rare hemorrhagic form of dermatitis—dermatitis multiformis or herpetiformis. The early urticarial nature of the lesion, the vesicular, bullous and hemorrhagic lesions are all within the limits of this affection. The only objections against it are the gangrenous and necrotic condition at the end of the process. Were it not for the symptoms of synovitis, etc., preceding the exhibition of the drug, he would have been inclined to favor the drug as a cause of the eruption.

Dr. Morrow: He thought it impossible to determine the precise etiology of this eruption. While he admitted that such a remarkable eruption had never before been recorded from the action of salicylate of sodium, he believed that the patient's skin had a very marked urticarial reaction, and he had no hesitation in attributing the lesions to the action of the drug. He could understand all the lesions except the gangrenous process as urticarial phenomena; and yet, after all, gangrene was not unknown in herpes zoster, and why not in urticaria also. He was therefore inclined to look upon the sodium salicylate as the

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causal factor here, and the unusual character of the eruption as due to the peculiar constitution of the patient.

Dr. Allen said he had seen some pretty severe instances of eruption after salicylates in rheumatic patients, but never anything equal to this. Still he could scarcely doubt the causal action of the drug in this case.

Dr. Sherwell: He did not think it a peliosis rheumatica. On the other hand, erythematous eruptions are fairly common after the salicylates, and other drugs. He would like to see the man submitted to another trial of the salicylates, and the effect noted.

Dr. Morrow: Drug eruptions are produced not only as the result of idiosyncrasy which is always an innate condition, but they may also be due to a certain receptivity of the system which may be acquired or created by pathological conditions. This susceptibility may have been present at the time the drug was first given, and absent now, or on a subsequent occasion; he did not therefore think that even if it were found that the man could take the salicylates now with impunity, it would necessarily prove that the drug had nothing to do with causing the eruption in the first instance.

Dr. Klotz did not believe that the eruption was due to the effects of the administration of the salicylate of sodium. Several years ago he observed a number of hemorrhagic skin lesions during the onset of an attack of gonorrhœal rheumatism. There were about five or six scattered over the entire body, resembling wheals at first but less sharply defined, dark, (almost black), round or oval nodules. The hemorrhage did not extend into the tissue of the papillary layer of the cutis but was subepidermidal. A perfectly solid, dry, black disk, about as thick as a wafer was finally exfoliated, leaving the skin perfectly intact.

Dr. Shepherd: He only began to doubt the sodium salicylate as a cause, when he noticed crops of the eruption continuing to appear after the stoppage of the drug. Then the eruption was preceded by the rheumatic pains, and the duration seemed to him incompatible with the amount of the drug which had been given, (only four doses amounting to about eighty grains). He had never seen a case of peliosis rheumatica become gangrenous, but he quite agrees as to its only being a matter of intensity. Hutchison reported a case of purpura thrombotica which resembled this one.

Dr. James Nevins Hyde, of Chicago, followed with

A CONTRIBUTION TO THE STUDY OF MYCETOMA OF THE FOOT AS IT OCCURS IN AMERICA.

In the preparation of which he had been assisted by Dr. Nicholas Senn, and to which was added a report by Dr. D. D. Bishop, of Rush College Pathological Laboratory.

On the 26th of September, 1894, W. O. H. was presented at the Surgical and thence referred to the Dermatological Clinic of Rush

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DR. HYDE'S CASE OF MYCETOMA.

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Medical College. He gave the following history: His parents were both living, though his mother was suffering from some renal affection. Four brothers and four sisters were living, in good health. Three children died in infancy from some cause unknown to the patient, none surviving the first year of existence.

The patient was born in America, seven years after the immigration of his parents from Bohemia, and before his present journey never had traveled outside of his native State. He was twenty years old, a student of dentistry, using tobacco and beer in moderation, and with no venereal antecedents. He weighed one hundred and forty-five pounds, was in general good health, and his functions were all fairly well performed. There were, in fact, no indications of disease beyond the morbid condition to be recognized in one foot.

The present disorder began thirteen years previously, when the patient was seven years of age. At this date he became very fond of wading barefoot with his companions in the Cedar River, near his place of residence in Iowa. At this period of his life he spent most of the summer days thus engaged. Soon after, he noticed a hard nodule, which formed within the skin of the sole of the left foot, and which very gradually spread till an area was involved of the size of a half dollar. This spot was cauterized with nitric acid, and then disappeared for a few years, but later returned and gradually spread till, as now, the anterior third of the left foot was extensively involved in a deformity with tumefaction. The disease is productive of little pain, and he is able to use the foot in locomotion to a surprising extent, considering the degree of its uselessness.

He has been seen by a number of physicians and surgeons, some pronouncing the case one of tuberculosis; others naming it sarcoma. The treatment thus far has been purely local, including the use of iodine and sulphuric and nitric acids. These have proved of no value.

When examined, the anterior two-thirds of the left foot were seen to have been converted into a shapeless mass, the tumefaction involving the toes and the dorsal and plantar tissues. The deformity was most marked over the dorsal surface. The mass of morbid tissue represented a bulk considerably larger than that of the normal foot, and terminated abruptly and by a well-defined line near the articulation of the metatarsal bones with the tarsus. (See colored plate.)

The tumefied mass had a boggy consistence when handled, and its surface was very irregularly beset with tubercles or, better, fungoid projections from the irregular surface of the infiltrated skin. Each individual papilliform mass was tunneled by one, occasionally by

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several, fistulous canals, which passed beneath to a softish tissue, the probe not encountering through these channels what seemed to be osseous structure. The greater number of these warty projections varied in size from a small pea to that of a large bean, and were elevated at a corresponding height above the general level. They were massed at the proximal rather than the distal portion of the foot, but were yet irregularly scattered over all its involved surface. A puriform secretion could be expressed from the orifices of some, but none furnished an exudate which might be compared with fish roe, or which had any suggestion of blackness in its color. In fact the lesions remarkably resembled the small mounds through which the crayfish digs a tunnel, the orifice of which is apparent at the center of his tumulus of earth.

In the present case the central canal perforating the axis of each tubercle or papilloma often seemed blocked by flabby granulations springing from the walls of the excavation. These masses were, however, much softer than the nodules of hypertrophic lupus, and readily admitted an exploring instrument to the fundus of the fistulous excavation. The general color of the diseased portion of the foot was rather grayish than of an inflammatory hue.

The proximal limits of the disease were fairly well defined both on the plantar and dorsal surfaces of the feet at the level of the tarsal extremities of the metatarsal bones. The involvement of the inner as contrasted with the outer face of the foot was marked. Thus the big toe and the adjacent digits were, both on the interdigital, the dorsal, and the plantar faces, much more extensively involved than the little toe and the digit adjoining; and over the inner part of the foot thus outlined the lesions were larger, some of the size of a coat button and more closely set together. The sinuses here were also more obvious, each leading down to the depth of an inch or more to the fascia and sheaths of the tendons beneath. The abnormal convexity of the sole of the foot was distinctly marked. This was most evident in the regions of involvement, the effect being somewhat visibly increased as the result of overuse of the posterior portion of the foot in locomotion. There was hence some swelling of the part of the sole not beset with tubercles, this condition extending slightly upward at the heel as far as the insertion of the tendo Achillis. The nails of the toes were in a gryphotic state, this also most marked in the nails of the first two toes.

Reservation was made respecting the question of diagnosis till microscopical examination of the tissues had been completed, the attention of the class present being directed to the strong resemblance of

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the member to Madura foot, due reserve being made in view of the fact that the subject of the disease was a native of America and had never visited another country.

A piece of the morbid tissue, having been excised, was submitted to examination. Two guinea-pigs were also inoculated with material taken from a discharging sinus, the result being that one died in the course of four days, the autopsy revealing nothing as to the cause of death. As we have since discovered that the effective fungus of the disease is deeply buried beneath granulation tissue, we think no inferences can be drawn from these facts.

The patient after this experience returned to his home and in the course of a few weeks came again to Chicago and underwent amputation of the leg in the lower third by Dr. Senn. We examined him with care about eight months after the date of the amputation, on the 14th of June. At that time he was a picture of sound health, and was walking with ease by the aid of an artificial limb.

The amputated member was examined in the Bacteriological Laboratory, Dr. Bishop subsequently reporting on the pathological conditions present as follows :

Gross Appearances.—Distributed over the dorsum of the foot, particularly the tarsal and metatarsal regions, the toes, and to a less extent upon the plantar surface, numerous spongy nodular projections, half pea to hazelnut in size. Most of the nodules show one or more openings at their summits.

Section through the nodules and underlying part brings to view a spongy reticulated tissue, fairly well circumscribed, at times having a rather dense fibrous wall. These collections of spongy tissue are easily traceable down to the periosteum of the underlying bone. The periosteum is very much thickened, but at certain points presents a reticulated appearance, identical with that observed in the softer tissues.

Longitudinal section of the first metatarsal bone brings to view two small rounded areas, one the size of a pea, the other slightly larger, both filled with a whitish, granulation-like tissue. These collections are surrounded by a firm fibrous capsule which is easily separated, leaving a smooth-walled cavity in the bone. They are situated just beneath the periosteum and communicate with the reticulated meshwork in the latter. The rest of the osseous structure appears more spongy than normal.

On pressure over the soft tissues, numerous whitish, small pinhead-sized bodies escape from the meshes of the reticulum ; and scraping of the whitish collections in the bone removes similar bodies.

Microscopic Examination.—One of the smaller and presumably

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younger nodules, with no demonstrable external opening, was hardened in alcohol, imbedded in celloidin, cut, and stained with Delafield's hæmatoxylin and aqueous eosin solutions. The general appearance given by such sections is that of rather active inflammation. As to the epidermis, the intercellular spaces, especially in the superficial

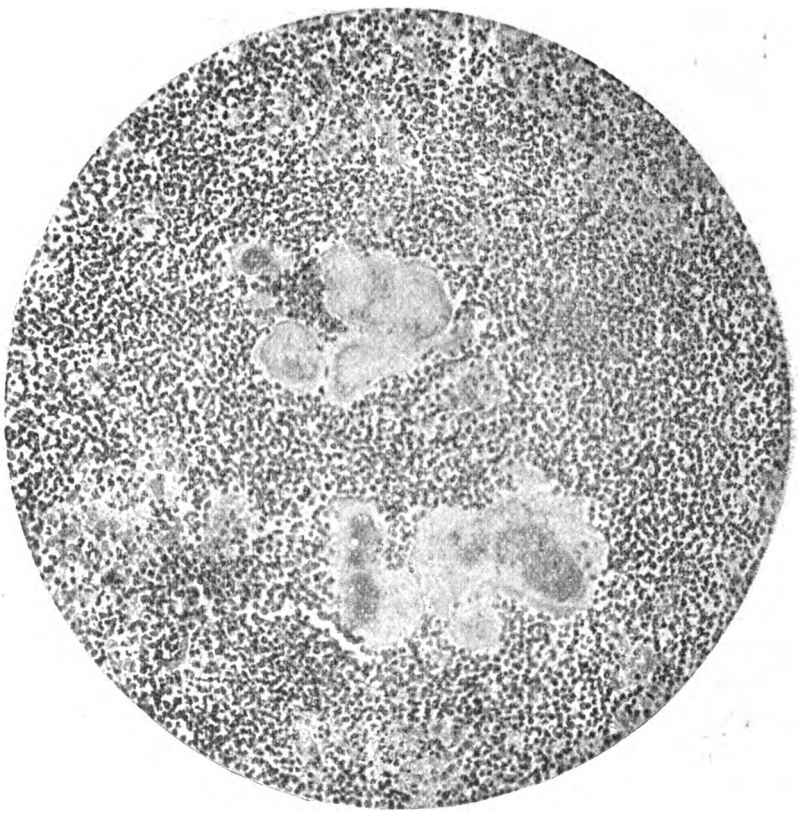

FIG. 1.—Photomicrograph to show groups of organisms and surrounding leucocytic infiltration, from a section stained faintly with eosin and hæmatoxylin. Spencer half-inch, Zeiss projection ocular 4, x 200.

layers (but in places reaching into the rete mucosum), are considerably enlarged. Here and there are widely open spaces in which the rete cells are drawn out into long strings. Granular deposits in these spaces are often seen, suggesting the presence of a serous exudate. Leucocytic infiltration between the epidermal cells has also taken place. The membrana propria seems undisturbed.

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In the derma, and more deeply situated, are bodies having a ray-like appearance; these were found in all the nodules examined (Fig. 1). These bodies consist of more or less rounded masses, often having a scalloped border. They occur singly and in groups. In all there is a central area which stains faintly with hæmatoxylin; surrounding this, a zone which also stains deeply with the same dye; and outside of all, a narrow margin staining with eosin only. These three divisions of the fungus may be called, as suggested by Kanthack, in his descrip-

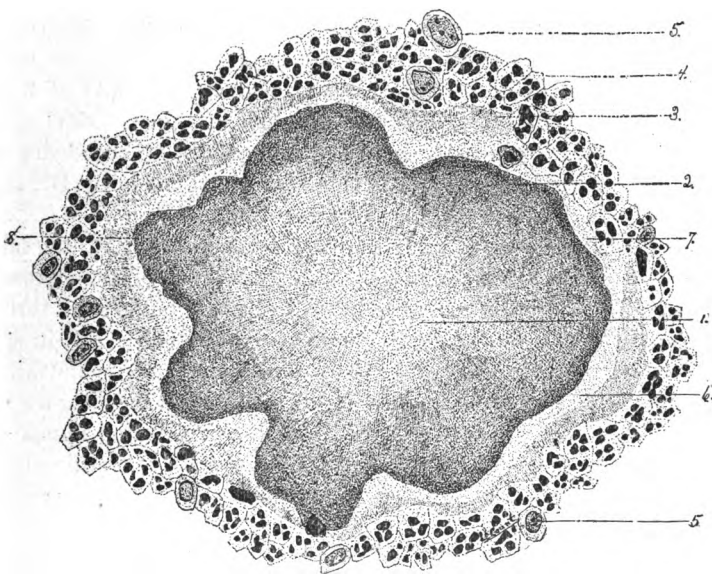

FIG. 2.—Drawing of a single micro-organism and zone of leucocytic accumulation. Camera lucida, diameters 810, reduced one third; objective, one-twelfth-inch oil immersion, eyepiece III (Leitz). Specimen fixed in Flemming's solution and stained with aqueous methylene blue. 1. Central area. 2. Marginal zone. 3. Radial zone. 4. Polynuclear leucocytes. 5. Embryonal cells. 6. Light area between marginal and radial zones. 7. Point of invasion of radial zone by leucocytes. 8. Mycelial threads extending across light zone (6).

tion of mycetoma, the central area (1, Fig. 2), the marginal zone (2, Fig. 2), and the radial zone (3, Fig. 2).

When examined with an oil immersion, $\frac{1}{12}$ inch lens and No. 3 eyepiece, Leitz, the central area appears granular, but shows a few delicate filamentous threads, resembling long, slender bacilli, having an obscure radial arrangement. In the marginal zone are seen numerous long, deeply staining threads, having a distinctly radial arrangement. These are also very slender and stain best at the periphery,

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giving the appearance of a fine mycelial network. The radial zone is separated from the marginal zone by a narrow space, which stains scarcely at all, and which appears in the main to be granular (6, Fig. 2). A few delicate threads, however, may be traced through this light area, connecting the marginal and radial zones (8, Fig. 2).

The radial zone, when observed with a Zeiss apochromatic 2·0 mm. eyepiece 8, appears granular in most of the sections, but in well-prepared specimens one can make out distinctly radiating lines, giving an appearance of more or less wedge-shaped bodies closely packed together, with their broad ends presenting peripherally. These radiating lines, suggesting in appearance the rays of actinomyces, are, it is true, difficult of demonstration; but after a careful study of a large number of specimens I am convinced of their presence. Most of the features here described are shown in the carefully executed drawing forming one of the illustrations of this paper, and made by Dr. E. R. Le Count, of the Rush Pathological Laboratory.

Careful search failed to disclose the presence of any of the larger club-shaped bodies described in connection with such fungous growths, nor was I able to demonstrate any branching of the mycelial threads. Again, no distinct evidences of segmentation were observed; in specimens, however, prepared by Weigert's fibrin stain, the radiating filaments appear as rather long bacilli, now and then meeting at their ends, suggesting a division of such threads. The same appearance was noted by Kanthack in his sections, stained with a modification of Gram's method, but it was looked upon by him as an effect produced by the method employed.

The Tissue Changes.—Immediately surrounding the fungus is a wide zone of deeply staining polymorphous nuclei, plainly leucocytes (4, Fig. 2). In sections from the larger and presumably older nodules, these cells are seen to have involved the radial zone (7, Fig. 2). The surrounding tissues show numerous newly formed blood-vessels; other better formed vessels distended with blood-corpuscles are seen, and in many a well-marked proliferation of endothelia has occurred. The vessel walls are often infiltrated with proliferating connective-tissue or endothelial cells. Leucocytes and epithelioid cells are also abundant in the rather large connective tissue spaces. Here and there giant cells are seen, at times with peripherally arranged nuclei like those of general occurrence in tuberculosis; again, other forms are seen in which the nuclei are more diffusely distributed throughout the cell body. Granular material staining with eosin, so commonly present in œdematous tissues, is often present in the connective-tissue spaces. The connective tissue fibers are appar-

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ently increased in number, but there is no encapsulation of the fungus.

Microscopic sections through the larger nodules show sinuses lined with granulation tissue extending down to the abscess formations. Serial sections failed to demonstrate any relationship between the growth of organisms and the blood-vessels. None of the individual filaments of rays was seen in the tissues remote from the main growth. With Weigert's fibrin stain the mycelial threads were deeply colored, appeared rather broader than with the other dyes, and as before shown were broken into short segments. With Gram's stain they were decolorized. Flemming's hardened sections stained with aqueous methylene blue brought out the mycelial threads very clearly; safranine was also successful, but none of these basic dyes stained well the radial zone.

Although the tissues were examined carefully in the fresh state, the fish roelike particles described as occurring in mycetoma were not seen; numerous small whitish bodies, already described, were easily pressed from the cut surface of the lesions, but these were never larger than a small pinhead. When carried to a slide and mounted in the preservative fluid or washed with water and soaked in liquor potassæ these small bodies appear under the microscope as rounded objects with a mulberry-like surface. The center of these bodies is dark and granular, but the surface is covered with a more transparent coating in which an obscure radial striation can be demonstrated. The same appearances were seen in similiar particles removed by scraping the granulations in the bone. In none of these, however, were typical clubs seen.

Reviewing the appearances as a whole, we find surface nodules and infiltrating deposits in the deeper tissues and bones, composed of granulation tissue, containing here and there organisms in which mycelial filaments are easily demonstrated, and possessing indistinct rays arranged around the periphery. The general characters of the organism resemble those seen in actinomycosis, but correspond more closely to those described in mycetoma.

The pathological study of mycetoma is almost limited, as to time, by the experience of the modern disciple of dermatology. The fungus originally recognized in the black variety of Madura foot by Vandyke Carter was by him later regarded as probably identical with actinomycosis, and to which the disease was then attributed. Less than ten years ago Ponfick, Crookshank, Kanthack, Hewlett, Boyce, Vincent, and others began to investigate this remarkable resemblance. As, however, this resemblance was more clearly recognized, the note-

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worthy differences between the two diseases have become accentuated, the result to-day being some little confusion. No attempt can be made, based upon the results of examination of a single case, to decide definitely on the question of the identity or absolute diversity of the two maladies under discussion. The subjoined points of distinction, however, are fairly well illustrated both in the literature of the two diseases and in the examination of the case here recorded. Some of them have been already formulated by Surveyor.

Madura foot is apparently a purely local disorder; in the many cases on record no history occurs of cervical or thoracic complications as in actinomycosis; mycetoma chiefly attacks the feet and hands, occasionally the ankles and knees; in India, where it is prevalent, actinomycosis is almost unknown; and the commoner cervical localizations of actinomycosis are never the sites of mycetoma. There are no black, red, and white (or pale) varieties of actinomycosis as in mycetoma, though upon this point it is to be admitted that there is a possibility that the appearance of the black grains in one variety of Madura foot is due either to an accident change in the fungus, or, as has been suggested, to a double infection.

Respecting the fungus of mycetoma and that of actinomycosis the following differences are set forth by Surveyor and Boyce; actinomyces grows readily in a hydrogen atmosphere; the fungus of mycetoma grows in such an atmosphere, but only with exceeding slowness; it also differs in the rapidity with which it takes up aniline stain.

The following unsettled points indicate how far we are at present from understanding the exact nature of these diseases and their mutual relations: (1) There is no agreement as to what constitute the differences between the white (or "ochroid"), the red, and the black varieties of Madura foot. These different clinical symptoms, it is to be noted, are never in any one instance commingled, so that the granules at one time black are at another red or white. (2) In some cases where the fish-roelike particles have been surgically evacuated from sinuses existing in unquestioned subjects of Madura foot, no fistulous tracts have opened externally to the outer surface of the skin. In several unmistakable cases of Madura foot, where no doubt existed as to the clinical symptoms, no fungus whatever has been detected.

Aside from the light thrown upon the nature of the morbid process by microscopical examination of the tissues, the gross appearances of the organ in the case here described were certainly such as to suggest at a glance the familiar outlines and special deformity of the Madura foot. The involvement of a single foot, the mamelonated projecting tubercles, each tunneled to a sinus extending to the deeper tissues, and

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the thin character of the discharge from each, were all of classical type. Exclusion of the black variety of podelcoma was readily effected on a first examination.

The history of this case is nearly in the line of those of a similar sort thus far recorded. The exposure of the bare foot to the sources of the disease by wading in watercourses, the slow onset of the malady, at first localized in a minute nodule in the sole, and the chronic evolution of the disease in years are noticeable features. The period of time required to produce the degree of deformity present in this case, viz., ten to thirteen years, is less than others on record in which twenty and even thirty years have elapsed before the subject of the disease came under observation. In the present case the bulk of the foot, though much less than in some of the formidable cases seen in India, presents a deformity of the dorsum and sole in strict conformity with the outlines usually recognized in Madura foot. Its occurrence in the male by preference can, I believe, be satisfactorily explained by the more frequent exposure of barefooted men in the beds of watercourses, though the disease has been also produced by tramping with the bare feet in the fields, and the traumatism of these members by thorns.

The commonly accepted title of the Indian disorder, viz., Madura foot, has perhaps contributed to the general belief that the disease exists in India only. Cases, however, are on record of its occurrence in Africa, in Syria, in Europe, and in other countries.

The only recorded instance of the production of Madura foot in America accessible when these pages were first written was that given by Kemper, in the *American Practitioner* of September, 1876. One of us (J. N. H.) has published briefly detailed observation of a case of podelcoma occurring in the practice of our late colleague, Prof. Charles T. Parkes, of Chicago. During his lifetime these details were obtained from a verbal description of the symptoms exhibited by the patient, and the features of the disorder were without question those of true mycetoma. As the subject of the malady, however, had been a resident of India, the case has no bearing on the history of Madura foot in America. A brief abstract of Kemper's case is subjoined for the purpose of comparison :

The patient was a native of Ohio, twenty-four years old, and by occupation a clerk. There was no history of venereal disease. In December of 1875 the right foot became swollen, reddened, and painful, this condition persisting till the following April, a period of but four months, and it is noticeable that in three weeks from the date of the onset of the disease there had been involvement of the entire sole.

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Subsequently "blebs" appeared, in number five or six, and ranging in size from a split pea to lesions with a diameter of half an inch. Each bulla had a centrally situated opening from which issued a non-purulent, foul-smelling secretion, resembling the white of an egg. Gradually ulcers formed and spread by extension till they were separated only by bridges of undermined integument. They finally fused until a single large ulcer formed on the inner side of the foot, with two smaller and similar excavations in the neighborhood.

The subsequent history is chiefly descriptive of the intense grade of pain experienced by the patient, and the exquisite sensitiveness of the affected foot which resented the slightest degree of pressure. Hypodermic injections of morphine and even anæsthesia were tried without effective results. On the 16th of June, six months after the onset of the malady, relief was secured by amputation, and this was followed by satisfactory healing of the stump.

The report of the gross and microscopical appearances includes a description of a "white, fluffy substance" to the naked eye upon the surface of the ulcerations. The fistulous channels were found to lead to muscular tissue. Microscopically, rough, irregularly outlined, yellowish, and refractive granular bodies were recognized, and these were supposed to be the spores of a vegetable fungus.

In the following points it will be seen that the symptoms given above are wholly different from those of mycetoma as it is described by Indian authorities :

1. The process was manifestly of an acute type both in the matter of time and of severity of symptoms. In a series of recently reported Oriental cases none exhibited any characteristically developed deformity in so brief a period of time as three weeks, and none had advanced to a state requiring surgical interference in six months. 2. The pain experienced by Kemper's patient is wholly absent in the enormous majority of all Indian cases. The subjects of the disease are usually found pursuing their vocations, and consent to removal of the offending organ chiefly because of its bulkiness and unwieldiness. In the case of our patient, locomotion by the feet had been steadily practiced for years, and he informed me after the amputation and the adjustment of an artificial limb, that with this member he walked no better than with his tumefied foot, the chief advantage of the former being its appearance. 3. In Kemper's case the external lesions are described as bullæ surmounting sinuses, a description consistent with the acuity of the process illustrated by other symptoms. In most of the subjects of mycetoma, however, the lesions are of the order of those recognized in the Iowa patient—viz., tubercles, nodes, warty and papillomatous

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elevations of the surface, indolently formed and scarcely changed for years after the central channel has penetrated to the deeper tissue. 4. The occurrence of distinct ulceration in Kemper's case, and the relatively rapid extension of the destructive process, as a result of which fusion of contiguous ulcers occurred, forming thus a large loss of continuity, are rare features when the foot is involved in mycetoma. Lastly, the occupation of the subject of the disease was not such as to render it probable that he had exposed his bare feet to the sources of the disease. Kemper's patient was a clerk, and the acuity of the symptoms forbids the supposition that he had been afflicted for years before the onset of his malady. Some, however, of the Oriental subjects of the disease pursued occupations usually practiced within doors in this country but in other lands often in the open air—as, for example, barbers, weavers, shoemakers, and blacksmiths.

In view of the facts detailed it would seem that, apart from the failure to recognize radiating hyphæ in the tissue examined, Kemper's case can only with great reserve be accepted as an illustration of mycetoma occurring in America.

The following conclusions are based upon a study of the case here described, as well as upon reports of Indian observers published within the last two years:

There are clinical symptoms of mycetoma which are to be recognized in some cases and not in others. These may be termed nonessential features of the malady. They are: (*a*) the appearance of blackish or reddish granules of pigment, free and within the cells furnished by the secretion; (*b*) the discovery of particles resembling the roe of fish, either expelled from the sinuses or imprisoned within the unbroken surface of the skin; (*c*) the occurrence of sinuses leading from without inward as far as muscle, tendon, or blood vessel. Cases of unquestioned mycetoma are on record where none of these features was exhibited.

The constant symptoms of the Madura foot are practically reduced, then, to a characteristic deformity of the affected part, predominantly the foot, and in men; but also the hand, shoulder, knee, and a few other regions in the two sexes, and the discovery of a radiating fungus. With the deformity there is a tolerably constant history of a slowly progressing involvement of the tissues; and, when the feet are affected, of exposure of the subject of the disease barefooted, in the beds of watercourses or in the open fields. There is further a notable absence of complaint of pain, of occurrence of relatively acute symptoms, and of the accidents commonly complicating elephantiasis of the lower

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extremities, such as, for example, recurrent attacks of lymphangitis, of erysipelas, of eczema, or of furunculosis.

The essential microscopical features of the disease in its several forms cannot be classified accurately in the present state of our knowledge of the subject. There should be recognized a septate vegetable fungus set in granulation or necrotic tissue with a number of unusually large giant cells which seem to be exercising a phagocytic effect upon the intruder. The several forms displayed by the vegetable growth, in consequence of its highly pleomorphic variability, differ not only in different cases, but in different stages of development, and in different infected animals. It is this feature which up to the present time seems to have furnished such widely different pictures that it is not to-day known whether actinomycosis and the several varieties of mycetoma are produced by one or more varieties of a single fungus or by wholly differing organisms.

In well-marked cases of mycetoma there is usually a central body or mass made up of semilunar or reniform bodies, traversed by a network of mycelium. The hyphæ exhibit the widest variation, being at times long and slender; at others, short and "dwarfed"; and again spherical in shape rather than elongated. In other cases no mycelium can be recognized. The "clubs," of which so much has been detailed by the earlier writers, are often wholly wanting, and at other times are evidently rudimentary as to their formation. They are believed to be produced by the reactionary processes of the tissue against the presence of a foreign element—the process, in fact, which accounts for the presence of unusually large giant cells in the necrotic tissue. The radiations from the central bodies forming a definite zone, the nature of which is not fully determined, seem to be a tolerably constant feature of mycetoma, and are readily distinguished in the sections made from the foot furnishing the basis of this contribution. Lastly the fungus burns with a luminous flame, the incinerated ash having the odor of burnt feathers and a shade of color supposed to be due to the presence of iron.

When the manuscript was preparing for the pages which precede, the authors were not aware that Prof. J. G. Adami, of McGill University, Montreal, had reported, and but a brief time before printed his report in the *Transactions of the American Association of Physicians* for 1895, a case of Madura foot occurring in America. Attention was called to the fact when one of us (J. N. H.) presented a report of our case to the American Dermatological Association, meeting in the city of Montreal, in September, 1895. Prof. Adami at that time kindly exhibited to the reader the bones of the foot amputated in the case

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of his patient, and also examined sections of the tissue stained and mounted in Chicago. He was also shown the original drawings of the foot seen in the accompanying illustration (Fig. 3), and fully recognized the identity of the disease in the two patients. Prof. Adami and his colleague, Dr. Kirkpatrick, are entitled to the credit of observing and publishing the report of the first undoubted case of mycetoma occurring on the American continent. The Iowa case, now reported, is probably the first of occurrence in the United States. A brief abstract of the Canadian case is herewith appended:

Fig. 3.—Lesions shown in Prof. Adami's case of mycetoma.

The patient was a French Canadian, twenty-one years old, and a native of Montreal, who had never been away from Canada. There was no history of tuberculosis in his family. A bluish spot appeared on the inner side of the right foot at the eleventh year, slowly increasing to the size of a small coin. Then followed a history of traumatism and disappearance of the plaque; occurrence of another lesion, described as a *bouton de chair;* later, disappearance also of this last, followed by the formation of a sinus; later, a second traumatism, followed by swelling and tenderness of the foot, but the disorder was throughout painless, as in our case, and as distinguished markedly from that of Kemper. Eventually the foot was studded with buttons, generally discrete, occasionally grouped, most extensively developed on the dorsum of the foot, but seen elsewhere, subpedunculated when isolated, each representing a cutaneous overgrowth of low vitality and pinkish or bluish-pink in color. A few had closed, and in the site of such a cicatrix formed. The sinuses led to carious bone, and the entire tissue was riddled extensively with these fistulous tracts. The bones were in a carious state and affected with a rarefying osteitis. Some of the articular faces were destroyed. Radiating osteophytes were recognized on the cutaneous surfaces of the scaphoid and internal cuneiform bones.

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Prof. Adami was able to express from some of the sinuses pin-head-sized and larger yellowish-gray granules, their appearance in general being identical with that of the ray fungus, forming lobate-reniform masses with a central dense mycelium and a radiate arrangement of filaments or clubs at the periphery, larger than those of actinomyces and bifurcating. These were surrounded by leucocytes. Some of the separated hyphæ showed evidence of being formed of joints, varying in length and breadth; but Prof. Adami concludes (a conclusion confirmed in a personal communication made later to one of us, J. N. H.) that these segmented hyphæ are an intrusion, and that the sinuses contained more than one variety of fungus.

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EVENING SESSION held Sept. 18th, 1895.

DR. ZEISLER: He did not feel capable to discuss the paper just read; but he could not help congratulating Dr. Hyde on the rare opportunity he enjoyed of studying such a case, and the able manner in which he had placed his views before them.

DR. GRAHAM: He was much interested in this case, especially as Dr. Adami of McGill University of Montreal, had shown a case of "Madura foot" at the meeting 1st June of the Association of American Physicians, held in Washington. The case he believed occured in Montreal; and he has no doubt that Dr. Hyde will be able to see the specimen and bones in the Museum here. Professor Adami made a very minute study of the pathological features; the speaker did not know what the clinical features were. The patient he believed was a Canadian who was never out of Canada, and who gave a history of exposure.

DR. ELLIOT: He wished to know whether Dr. Hyde made an absolute distinction between the fungus that caused Madura foot, and that recognized as the cause of actinomycosis.

DR. HYDE: In reply to Dr. Elliot, said he was not justified in drawing any conclusion from his observations on this case. But from Indian observations, and his experience of this case combined, he was inclined to think that there were probably varieties of the ray-fungus, and that the variety causing Madura foot was not identical with that causing actinomycosis. He thought there might be an American variety of the ray fungus which caused mycetoma.

DR. ELLIOT: He said his reason for asking was on account of a peculiar case of actinomycosis seen by him last winter. Altogether he had seen three cases of this disease, the third being the peculiar one aforementioned. The disease did not affect the jaw at all, but commenced primarily in the abdomen, a fistula being the first skin symptom. There could be no doubt as to the identity of the disease, as he had made a pathological examination and found the ray fungus abundant in the secretion. His other two cases were typical ones

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affecting primarily the lower jaw, and extending from there. All of those cases showed the clinical symptoms of actinomycosis, and had that peculiar hardness, which has always been signalized as characteristic of actinomycosis. As far as he knows in reading and hearing of Madura foot this symptom is wanting and that was his reason for inquiring from Dr. Hyde whether he considered the fungus of the two diseases exactly the same.

Dr. Shepherd having entered the room during the discussion, he was asked for information of the case occurring here in Montreal reported by Dr. Adami. He regretted to say he had been away in Europe at the time and only heard of the case from Dr. Adami upon his return. He corroborated the information already given by Dr. Graham.

Dr. Fordyce: He wished to know if Dr. Adami brought up the relationship in his paper between Madura foot and actinomycosis.

Dr. Graham: Yes; but he thought it was a different fungus though resembling it.

Dr. John A. Fordyce, of New York, then read

NOTES ON DRUG ERUPTIONS.

I desire to briefly report to the association some cases showing the more unusual manifestations of the effect of drugs on the cutaneous surface.

Case I.—The Nodular Form of Iodic Eruption.—The patient, a woman aged thirty-seven, was admitted to my service in the City Hospital in March, 1893, suffering from a hemiplegia of some years' standing, the result of an old syphilitic infection. She was given the iodide of potassium in increasing doses. While taking sixty grains three times a day, two and a half weeks after her admission, two painful and indurated nodules appeared in the subcutaneous tissue on the anterior and posterior surfaces of the right thigh, the paralyzed member.

Under the continued use of the iodide for the next two or three days they increased rapidly in size until they became larger than a man's fist, extending deeply into the subcutaneous tissue and involving a surface area about five inches in diameter. The overlying skin was reddened, and the swellings became softer, simulating deep-seated abscesses.

During the development of the larger swellings a similar but smaller one appeared on the anterior surface of the left thigh.

The house physician at the time directed my attention to the swellings, which he had called "peculiar abscesses." They were looked upon by me as due to the ingestion of the iodide of potassium, and its

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use was discontinued. Within a day or two the swellings began to subside, and at the end of a week had completely disappeared.

It was my intention to have again administered the iodide in order to determine conclusively its ætiological connection with the swellings in question. The patient, however, demanded her discharge from the hospital, and I was unable to verify my diagnosis.

I find in Morrow's work on *Drug Eruptions* references to similar subcutaneous swellings due to the administration of the iodide, by Vallanur, Talamon, Hallopeau, and Pellizari. In Hallopeau's case the localization of the nodular swellings was similar to that in my own case. Talamon mentions the close resemblance which the eruption in his case bore to erythema nodosum. In my own case this comparison could scarcely be made, as the tumors were much larger than those usually seen in erythema nodosum; they were not accompanied by swelling or pain in the joints, and disappeared sooner than the latter eruption is accustomed to do.

As it is quite probable that all the eruptions due to the iodides are secondary to certain vascular changes which the drug is known to produce, it seems reasonable to suppose that the sluggish circulation in the paralyzed leg might in part have been responsible for the severer character of the swellings on that side.

Cases II. and III.—Rupia like Eruptions due to the Iodide of Potassium.—I have lately observed two examples of an eruption due to the internal administration of iodide of potassium, both of which closely simulated syphilitic rupia, and in one of which the drug eruption could scarcely be distinguished from the syphilide which was present at the same time.

One of the patients, a girl aged twenty, was taking a mixture containing ten grains of the iodide and a sixteenth of a grain of bichloride of mercury for an extensive rupial syphilide. After the administration of the mixture for a period of several weeks, and while the syphilitic eruption had almost healed, three or four rounded, crusted, brownish-red papulo-pustules, about the circumference of a silver dime, appeared on her forehead and cheeks. On removing the crusts the underlying skin in certain lesions presented an irregular granulating base, almost papillary in character, while in others the base was more elevated and funguslike.

The further administration of the iodide was followed by an increase in the size of the ulcerated surfaces, and by the occurrence of new lesions, which were observed to begin as brownish-red tubercles on which vesicles developed that rapidly became pustular. The secretion dried in the form of superimposed dark-colored crusts, the

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ulcerated base at the same time extending in circumference as in syphilitic rupia.

The use of all specific remedies was discontinued, and the sores treated by a boric-acid ointment, under which they rapidly healed, leaving brownish-red pigmented scars, which could not be distinguished from the scars left by the former syphilide. After a period of several weeks the iodide alone was given, and with a similar result.

Case III.—A man, aged twenty-nine, affected with a gummatous syphilide of the chest and arms, was given a mixture similar to that employed in the former case.

When the specific eruption was rapidly disappearing, a number of ulcers with irregular depressions over their surfaces, and undermined edges, were noted on the forehead, cheeks, and upper lip.

The ulcers were preceded by an infiltration, brownish-red in color, which became pustular, and rapidly developed into open ulcers.

The ulcers were about an inch in diameter, and healed on stopping the iodide under an antiseptic ointment. They were at first mistaken for a new syphilitic outbreak, and were treated more vigorously with the iodides and mercury. They became larger under this treatment, while new lesions of like character developed.

Irregular pigmented scars were left, as in the former case.

The eruption in both of these patients corresponded closely with the anthracoid variety of the iodide eruptions. It differed, however, in the absence of the multiple openings or pustular points; and, in the case first reported, by the great quantity of superimposed crusts, giving it the physiognomy of a rupia.

Both of these cases, however, can be classed under the heading of the anthracoid form of iodide eruptions, and are referred to more particularly to emphasize their close resemblance to rupia. Such observations seem to demonstrate that the skin may, under certain conditions, respond in an almost identical manner to the chemical agent iodine and to the poison generated by the syphilitic virus.

Case IV.—Erythema Scarlatiniforme following the Application of Mercurial Ointment to the Pubic Region.—A young man of twenty years presented himself at my clinic, with a universal, diffuse, erythematous rash, involving alike the face and all portions of the cutaneous surface. The eruption closely simulated that of scarlatina, and in fact had been so diagnosticated by a physician who had seen him before.

The temperature was not elevated, and there was no implication of the throat. After stripping him I noticed that the skin about the pubic region was stained from the application of mercurial ointment,

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which he said he had used a few days before as a remedy for pediculi. Within two days after the application he had noticed the rash, which itched slightly, but otherwise gave him no trouble. I saw the patient again within a week, when abundant desquamation was taking place over the entire body, and especially noticeable on the hands and feet.

Case V.—The colored photograph which I present (photograph shown) illustrates the distribution of a diffuse and scattered erythematous rash which followed the application of blue ointment to the pubic region for the same purpose as that employed in the case just quoted. The diffuse erythema extends as high as the nipple line in front and behind, and as low as the knees. The rash is also diffuse on the inner aspects of the arms.

On the chest, both back and front, scattered patches of multiform erythema are seen, as well as on the arms and legs. On the back a circinate patch of erythema is seen, made by the confluence of smaller patches.

Desquamation of the affected surface followed within a few days, as in the other case.

In both of the patients the eruption was purely erythematous, with no formation of vesicles and very little swelling of the skin. Similar eruptions have been reported after the internal use of the drug, the protiodide and calomel (Fournier and Engleman), the hypodermic employment of calomel (Lesser), following the application of corrosive sublimate dressings, and from exposure to the fumes of mercurial vapor. The application of mercurial ointment to the skin is more frequently followed by a papulo-vesicular eruption, which is more marked around the hair follicles. In an experience of several years at Hot Springs, where the inunction treatment of syphilis is almost exclusively employed, I do not recollect having seen such an extensive erythematous rash as in either of the cases reported.

Case VI.—Erythematous Eruption from the Internal Use of Boric Acid.—A female patient in the City Hospital under my care was given boric acid, in doses of thirty grains daily, for the period of a month, for a cystitis. At the end of this time she developed a multiform erythema of the trunk, more noticeable over the back and shoulders, and at the same time a marked swelling of the upper lids. The lids were painful, and the œdema so extensive as to cause them to be closed.

There was also a marked conjunctival inflammation and decided photophobia. Not suspecting that the boric acid was responsible for the condition, its use was continued. The erythematous eruption in the meantime spread over the trunk and upper extremities, and the

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painful œdema of the eyes increased until the lids became almost as hard as the induration of the initial sclerosis.

The boric acid was discontinued at this time, and cold applications made to the eyes. Within a short time the œdema of the lids began to grow less, aud within a week had entirely disappeared, the erythema passing away at the same time.

Eruptions of an erythematous, vesicular, and bullous type have been reported from the administration and local use of boric acid. One observer has noted the occurrence of conjunctival injection.

I find no mention, however, of the peculiar solid œdema of the lids which my patient presented in such a marked degree.

DISCUSSION.

Dr. Jackson: A few months ago he was called, in consultation, to a case supposed to be scarlatina. The patient had been sick several days when he saw him. The eruption commenced in the form of a little irritation about the genitals. His physician prescribed blue ointment, and soon after an erythematous rash began which spread till it involved a large portion of the surface. The physician feared that the case was scarlet fever. Dr. Jackson then being called in, found the patient without fever, or any other clinical sign of scarlatina except the rash, and decided the case was not one of scarlatina but of scarlatiniform erythema from mercurial ointment.

Dr. White: It has been occasionally observed that the use of stimulating applications to the skin are capable of lighting up widely spread dermatitis. Although he never saw a case so absolutely universal as this, he had seen some where the lesions were of considerable extent. He often observed it after the use of chrysarobin ointment on the skin, but he could never satisfy himself how far it was due to any specific action of the application, or whether the skin being inflamed in one part, that inflammation might spread of its own accord. He had seen two instances of boric acid eruptions, which made him take a special interest in those reported here, but he does not think there are many such to be found in the books.

Dr. Klotz stated that he had under his observation during his hospital service last summer a case of a universal macular and annular erythematous eruption following methodical inunctions of blue ointment in a patient suffering from severe spyhilis of the bones of the nose and palate. The eruption appeared after six or eight inunctions without much disturbance of the general health and particularly of the kidneys, and reappeared when after an interval of several weeks the inunctions were resumed. As to boric acid he had repeatedly observed a localized dermatitis of superficial eczematous character after the prolonged use of small or moderate doses of the drug. Since boric acid was generally considered a quite harmless remedy, he wanted to mention that he had recently received knowledge of a case of fatal poisoning from the internal use of a large dose of the drug, (since pub-

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lished by Dr. T. Schwyzer, of New York, in Med. Monatsschrift, August, 1895), in which death was immediately due to an acute desquamative nephritis.

DR. SHERWELL: He considered that the contributions made on this subject would be very valuable reading in the next report.

DR. ELLIOT wished to change the title of his paper from "A further study of Alopecia Prematura and its most frequent cause," to

A FURTHER STUDY OF ALOPECIA AND ITS MOST FREQUENT CAUSE, DERMATITIS SEBORRHŒICA, WITH A BACTERIOLOGICAL REPORT ON DERMATITIS SEBORRHŒICA.*

At the meeting of the American Dermatological Association held at New London in 1892, I read a paper on Alopecia Præmatura,* in which it was claimed that in the overwhelming majority of cases the cause of the condition was a local one, represented by various grades of that form of disease known in more recent days under the name of eczema seborrhoicum, but formerly as seborrhœa sicca, pityriasis capitis, etc. I had based my conclusions upon an analysis of two hundred and thirty-four cases treated in my private practice, of which two hundred and seven, or 88.46 per cent., had been due to one or another grade of this same local process, while the remainder—twenty-seven in number—had been the result of various general and systemic diseases and conditions. The discussion of my paper by the members present at the meeting elicited, however, views materially different from my own. Alopecia, in their opinion, was due to hereditary causes rather than to local conditions, or it proceeded from mechanical irritation, bad hygiene, or other factors of similar import. Dr. Jackson alone acknowledged a distinct causal relation between alopecia præmatura and the local affection, eczema seborrhoicum—but he qualified his acknowledgment by ascribing a greater influence to heredity than to the local disease. In view of this great divergence in opinion between myself and those members of the association who took part in the discussion I have been led to investigate minutely each case of alopecia which has come under my care, as to the existence or non-existence in any one of them of a basis for claiming heredity as a cause. The condition of the parents' hair, whether either one of these had been or were subjects of alopecia, was rigidly inquired into, and as far as possible the cause of such loss, if existent, was ascertained.

At the same time the state of the patient's scalp at and prior to

* *New York Medical Journal*, 1893.

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the date of consultation was investigated, and the duration of the alopecia in each was noted.

For the sake of accuracy, the material included in this paper was obtained from my private practice alone, and the cases included were those treated during the two and a half years—January 1, 1893, to July 1, 1895. Their total number was three hundred and forty-four.

The ætiological causes found active in the production of the alopecia were :

Alopecia areata	4
Constant headaches and neuralgia	4
Neurasthenia	4
Senile alopecia	2
Malarial and scarlet fever	2
Erysipelas	1
Diabetes	1
Pregnancy	1
Without apparent or traceable cause	5
Heredity { From mother's side, 1; From father's side, 3 }	4
Eczema seborrhoicum in various stages and degrees	316
	344

It was thus found that five, or 1.45 per cent., originated from unknown causes ; nineteen, or 5.52 per cent., were due to general systemic disturbances ; three hundred and sixteen, or 91.86 per cent., were the result of local disease ; and only four, or 1.16 per cent., could be attributed directly to heredity—that is, in these four no other factor or cause existed or was present except the loss of hair at an early age in one or other of the parents, and no other cause was present in the patients themselves. If the fact alone that the parents lost their hair at an early age was entertained in investigating the ætiology and the pathological condition of a patient, then there were sixteen among the three hundred and sixteen cases which could be also included in the category of heredity. Nevertheless I have excluded these, and I believe with entire justice, for, though three of these patients had mothers whose hair was always thin and poor in quality, and thirteen had fathers bald in various degrees at early ages, yet not one of the sixteen had shown the slightest symptom of alopecia until some months or years after the development on the scalp of some one or other grade of seborrhoic eczema. It is for this reason that I have included these sixteen cases among those others due to the local process

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eczema seborrhoicum, and as examples of some of them I would mention :

CASE I.—A man, aged twenty-eight years, in excellent general health. Father became progressively bald from no traceable cause at the age of twenty-five years. Patient always had abundant thick hair, but alopecia had begun at the age of twenty-three years. Three years before, eczema seborrhoicum squamosum of a severe grade had developed, and when I saw him the symptoms consisted of red patches and areas covered with greasy crusts and a fatty incrustation distributed generally over the vertex ; itching and burning were severe at times. Hair much thinned over affected area.

CASE II.—A woman, aged twenty-two years, delicate in health, but otherwise well. Mother's hair always scanty and thin and also grandmother's. Her own hair always scanty, but not changing at all until one year before I saw her, when the alopecia became instituted. Six months previously, pityriasis capitis had developed. When seen by me, there were red, circumscribed patches covered with greasy scales and crusts distributed over the vertex, and a pityriasic condition over the temporal and occipital regions. I would also particularly mention, in view of the patient's statements in regard to heredity as the cause of her infliction, that the mother was also seen and examined by me. She was found to have the *same* local *disease*, and to have lost the greater part of her hair after the daughter was ten years of age.

CASE III.—A man, aged thirty, in perfect functional health. Family history gouty. Father became entirely bald over vertex at a very early age, and from some undescribed cause. Patient's hair exceedingly thick and curly over the entire scalp. Pityriasis capitis for several years. Alopecia one year. Marked eczema seborrhoicum squamosum at time of consultation. Patient's wife treated also for severe alopecia. No alopecia in her family on either side, but eight months before I saw her she had had severe eczema seborrhoicum over the scalp.

Two sisters of the patient in Case III, likewise treated by me, gave the same history of father's alopecia. Both abundant and magnificent hair. Both severe grades of eczema seborrhoicum, with itching and burning for several years. Alopecia, respectively eight and six months.

It certainly does not seem to me that, in view of the facts presented by these cases, any warranty exists for accusing heredity as a direct causal factor of the alopecia, and the same may be said in

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regard to the remaining thirteen of the sixteen referred to here, whose histories were practically identical with those already given. I assuredly do not deny that alopecia may be hereditary, but I do not believe that in cases similar to these it can be looked upon in any other way than as a predisposing factor, in so far as an individual may acquire by heredity hair poor in quantity and quality. When this is the case the effects of any disease of the scalp may be more severe, but the alopecia which takes place is certainly produced by the local affection present at the time and not by the inherited deficiency in quality or quantity of the hair. It would be as logical to postulate heredity for loss of hair after typhoid fever because the patient's father was bald at an early age as to do so in these cases, all of which were sufferers from a local process which is generally acknowledged by all writers to be a potent and frequent cause of alopecia. In order to arrive at a satisfactory conclusion in regard to this question of heredity, I found it particularly important not to be satisfied with the bare statements alone of the patient, but to investigate personally and as far as possible into the family history. As a result of doing this, the accusation of responsibility for the alopecia brought against parents was disposed of in all my cases except those already mentioned. Such conditions were frequently found as stated in the history of Case II—that is, the same local disease was present in parent and child as a cause, or the alopecia was due to some general systemic disease, condition, or dyscrasia, and post-dated the birth of the child by a number of years more or less, and not a few were fine examples of senile alopecia. In reality, I found by investigating the statements of the patients very slight basis of support for the claim of heredity, unless some such proposition was entertained as "post natal" heredity, by means of which a child inherits from the parent a condition acquired by the latter years after the birth of the former—a certainly untenable proposition.

After carefully investigating, therefore, the parents' and the patients' histories, and excluding the twenty-four cases of alopecia due to some general systemic disease or condition, or which were of unknown cause, I would divide the remaining three hundred and twenty as follows: Absolutely no basis for accusing heredity as a cause, 290; heredity possible, but no alopecia until some time after the development of a local disease—eczema seborrhoicum—16; no definite information *pro* or *con* obtainable, but eczema seborrhoicum present on the patient, 10; heredity and no other factor existing, 4.

The result obtained from analyzing my cases, therefore, justifies me, I believe, in stating again that in my experience heredity as a

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cause of alopecia is possible and does exist, but it is exceptional and by no means the rule, as is generally believed and held.

In place of heredity it has, however, been my experience in the last two years and a half to again find that the most frequent cause of alopecia was that local disease representing some phase or grade of the process known to-day as eczema or dermatitis seborrhoica, and in view of this renewed experience I may be allowed to refer briefly to certain features presented by the affection in its relation and bearings toward the individuals affected. In my former paper I stated that two hundred and seven out of two hundred and thirty-four cases of alopecia were the result of a seborrhoic eczema of variable duration—from a few months to a number of years—that is, 88.46 per cent. were the expression of the effects of the local disease. Much as that result was surprising, in view of the opinion generally held that heredity was the prime and most frequent cause, yet to-day the percentage is still higher—91.86 per cent.—and three hundred and sixteen out of a total of three hundred and forty-four cases owe their origin and existence, in my opinion, to the local disease, and that after every other systemic, general, accidental, or other factor had been excluded by rigid investigation. It may, however, be advanced that notwithstanding the presence of the local disease it in reality had only a certain share in the production of the alopecia; there was something else—something more, something necessary for its own existence—and that it is this which the real and important cause of the alopecia, the eczema seborrhoicum being only an accessory. There is no reason to object to the claim that there are some factors or conditions which render one individual more favorable for the development of the disease than another; there is no question but that the effects of the process may be very rapid in one, very slow in another, and nil in still another; that the affection may exist for years without producing any alopecia. There is no more doubt that these conditions exist in seborrhoic eczema than that they do in all other diseases of whatever nature, origin, or causation they may be, but they are the expression of certain unknown states of cell life; are individual in the fullest sense of the term; are usually designated as predisposition, "nature of the soil," etc., without, however, being more nearly understood or defined; and can not certainly be regarded as determining or active causes of a condition or disease, but only as favoring or non-favoring factors, such as render the individual more or less liable or refractory to the development of a morbid process and to its effects. Consequently their interposition does not negative the claim that the active factor—the cause of the effect—is the local disease, which, it

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may be granted, may produce its effects easily or with difficulty, or not at all, according as the "soil" was more or less favorable. I must confess that so far as the production of alopecia by the disease eczema seborrhoicum is concerned, I could not estimate the role played by these possible but remote and indefinable factors. It was observed that the symptomatic evidences and effects of the disease existed irrespective of the systemic condition of the patients, was neither favored nor the opposite by any somatic state; it was seen that the alopecia persisted so long as the local process was allowed to exist, ceased with its removal, but returned with its reappearance, and under such circumstances the question certainly arises, By what should one abide? By the indefinable, remote, and unknown factors constituting predisposition, or by the objective, active, and determining cause—the local disease? That is the position in which I found myself placed after careful observation and investigation into the antecedents of my patients, the conditions existing at the time of consultation, and the effects of removing the local process; and in view of my experience I would unhesitatingly accuse some grade of eczema seborrhoicum as the direct and active cause of alopecia in the immense majority of cases.

The fact that this disease plays so important a part in the production of alopecia is of more than ordinary consequence. It is a curable and preventable process, and its more general recognition would certainly lead to a great diminution in cases of baldness. In my experience many such are directly the result of neglect, owing to a misconception of the process at work, and to the ingrained belief that heredity is the primary, secondary, and only cause of alopecia, and hence irremediable.

There is no need to refer particularly to the clinical symptoms of eczema seborrhoicum,* as they have already received full description in other papers on the subject, and to do so would only involve repetition. I would rather call brief attention to some other features obtained from the present analysis of my cases, and then to take up the perhaps most important part of my paper.

The proportion in regard to sex is practically the same as previously found by me. There were then 55 + per cent. females and 44 + per cent. males, while now there are 64 + per cent. females and 35 + per cent. males. In other words, there is a decided preponderance in number in favor of the female sex, one, however, not to be taken as abso-

* Elliot. Eczema Seborrhoicum, *N. Y. Med. Jour.*, 1891. Alopecia Præmatura, etc., *N. Y. Med. Jour.*, 1893. Article Dermatitis Seborrhoica, Morrow's *System of Genito-urinary Diseases, Syphilis, and Dermatology.*

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lute, but as entirely relative, owing to the fact that women seek aid for their afflictions much oftener than men.

According to the table of ages, I may say that my former statements are substantiated by it, since the largest number of cases occurred in the decade twenty to thirty, and the next largest in the ten years

Table of Ages.

1 to 10 years	1	2	3
10 to 20 "	11	31	42
20 to 30 "	59	99	158
30 to 40 "	31	44	75
40 to 50 "	8	21	29
50 to 60 "	1	8	9
	111	205	316

thirty to forty. In 1892, 47 + per cent. occurred in the former and 31 + per cent. in the latter, while now the proportion is 50 per cent. and 23 per cent. respectively. More important, however, is the fact that two hundred and three cases, or 64 + per cent. of the whole, occurred before the age of thirty, or within those years in which alopecia may certainly be called premature, and also at a time when systemic and bodily health is at its best, and has not yet been taxed and strained to its utmost by the mode, conditions, and struggles of life. In other words, at the period of life when the recuperative powers of the body are most active, when the presence of systemic conditions sapping strength and nutrition are to the greatest extent wanting, it is then the alopecia is most frequently initiated and sustained, instead of its having its origin later in life, when so many concomitant bodily factors may be present as adjuvants and aiders in the process. This seems to me to be certainly an additional argument in favor of the decisive influence of the local disease, as against those other remote and undemonstrable predisposing factors which are spoken of but not described, and I may also add that, in my cases at least, the condition of systemic health could not be appealed to as exerting any effect in the production of the loss of hair.

Of my patients, seventy-two per cent. were in good general and functional health, while the remainder furnished details pointing to gastric or intestinal dyspepsia of varying degree, to constipation, anæmia, rheumatism, gout, or some slight ailment of imagination or fact, such as may and does occur in connection with any skin disease. None, however, were in such condition as would preclude their coming to my office, or were in reality what might be called ill.

After reviewing carefully all my cases, after analyzing them with

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all possible rigidity, and after weighing all the *pros* and *cons* of the question during the last two years and a half, I am therefore compelled to repeat emphatically the assertion made by me in 1892—viz., that a local disease, eczema, seborrhoicum, is in the overwhelming majority of cases the cause of alopecia.

The object of my paper was not, however, alone the reinvestigation of the causation of alopecia, but more particularly was it intended to bring forward a question in the pathology of eczema seborrhoicum, one of the very highest importance, and one to which attention is more particularly asked than to any other part of the subject.

Some years ago I had the pleasure of arousing interest in the question of seborrhoic eczema in the mind of my friend Dr. William H. Merrill, of Pepperell, Mass., and for several years he has devoted himself, as far as his time permitted, to the study of the bacteriology of the disease. The practical results of his work he has communicated to me from time to time, but, thinking that this was a fitting occasion for making his work and its results public, he has at my request kindly sent me the following preliminary report of his experiments and investigations:

BACTERIOLOGICAL STUDY OF ECZEMA SEBORRHOICUM, ETC. BY WILLIAM H. MERRILL, M. D., PEPPERELL, MASS.

The material used for the bacteriological experiments was taken from the scalps or faces of patients presenting all the necessary symptoms of seborrhoic eczema. The cases utilized were fifty in number, and in forty-eight of these germ life of some kind was found. Two (Cases VI and VII, author's notebook) were sterile, it being impossible to obtain any growth from the scales by any method, and it is a most interesting fact to note that on the day previous to the collection of the material from both of these cases the eruption had been freely bathed with a solution of resorcin.

Of the forty-eight, only two (Cases III and XXXI, author) showed any growth in bouillon. In Case III it was produced by a large motile bacillus (not examined); in Case XXXI, by the *Staphylococcus pyogenes aureus.* In gelatin media, or in gelatin stiffened with agar, growth of some kind was invariably obtained.

In thirty-four cases the gelatin was liquefied to a greater or lesser degree, in fourteen it was not. In these latter the growths appeared only about the surface scales; but those thrust below the surface showed no development unless air gained free access to them through the needle puncture.

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The cultures were always kept at ordinary room temperature. Of four cases examined in February the inoculated tubes were allowed to stand at night in a cold room (32° F.), and they remained sterile until the tenth day. Tubes inoculated in summer, however, would show a visible growth on the third day. On the fourth day (70° F.) signs of germination could generally be seen, and the time in the cases in which it began varied from the third to the sixth day after inoculation. Freezing temperatures were found to undoubtedly retard to a considerable degree the artificial growth of the germs occurring in eczema seborrhoicum. Pure cultures obtained from the experiments showed three distinct varieties of bacteria, which may be designated as Nos. 1, 2, and 3. In thirty-one cases all three were present; in seven, only Nos. 1 and 2; in two, Nos. 1 and 3; in five, No. 1; and in one, No. 3 alone. In two cases (IX and XI, author's notebook) all three were present, and also a few colonies of the motile chromogenic *Bacillus fluorescens liquefaciens minutissimus* described by Unna and Tommasoli (Sternberg).

Variety I.—Small diplococci, single or in irregular groups. The parts forming each diplococcus are round or only slightly oval. The germs are aerobic, non-liquefying, and non-chromogenic. At 70° F. they grow rapidly. On gelatin plates the deep seated colonies remain about the size of an ordinary pin's head for weeks. The superficial colonies are round, white, with slightly raised surfaces, and smooth or somewhat irregular borders. In its growth the colony adheres very nearly to its circular form. After the first week the centre begins to turn darker, and with increasing age of the colony the whole surface, hitherto smooth, begins to be wrinkled and the edges become irregular, as though the evaporation of the water caused contraction. At the end of three weeks growth seems to stop, and the colony changes from its original white color to a dusky brown.

On agar-agar the appearances closely resemble those of the gelatin colonies, except that it is slower in its growth and its surface has a whiter lustre. On potato the growth begins to be visible on the second day. On the fifth day it is cream white, smooth, raised about a tenth of an inch, and its edges are irregular and scalloped. At this time it covers about two-thirds of the surface of a potato stick half an inch in diameter. After the first week the growth is slow and at the age of three weeks its size only equals that of the first week, but the colony itself is shriveled, dried, and dark in color.

In milk the culture had on the second day a slight greenish tinge, which by the fifth day had disappeared. The upper quarter inch of

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the milk seems slightly thicker, but no other change is visible to the naked eye.

Variety II.—In appearance it is almost identical with Variety I, except that it seems more oval in form. This diplococcus is ærobic, non-liquefying, and chromogenic. As in Variety I, the ordinary changes of temperature, as occur from the rotation of the seasons of the year, retard or accelerate the growth of the cultures. On *Petri dishes of gelatin*, the minute, round, yellow colonies appear on the third or the fourth day. Those on the surface grow slowly, are slightly raised, and have smooth borders. After the first week's growth the centre shows a deeper orange color.

On *agar-agar*, the growth is slightly lustrous, thicker, and of a light orange color.

On *potato*, a deep golden layer develops, which is well raised and has irregular borders.

In *milk*, this diplococcus grows as Variety I does, except that after ten days the upper layer of the milk is thickened and has turned the same golden color mentioned.

In *stab* cultures of Varieties I and II the growth adheres pretty closely to the puncture line, gradually spreading down it and over the surface.

Variety III.—A bacillus with rounded ends, single, in pairs, or in short or long chains. It is aerobic and anaerobic, motile, liquefying, and non-chromogenic.

In gelatin tubes, a grayish-white growth commences on the second day. In smear cultures, a pit of liquefied gelatin is formed, and, remaining of the same irregular shape as the smear, it gradually deepens and contains at the bottom a whitish sediment.

In stab cultures the resulting pit is the shape of the puncture and contains the same white sediment.

On agar-agar the growth is whitish, its surface raised, without lustre, and its border indented.

Dr. Unna has described three varieties of diplococci as present on the skin of patients suffering from eczema seborrhoicum (Sternberg). They all differ somewhat from the two varieties described here. Unna's two first are liquefying diplococci, while Nos. I and II are non-liquefying—a fundamental difference. His third variety, the *Diplococcus albicans tardus*, resembles No. II somewhat, but in certain aspects of its growth on the various culture media it differs decidedly. In addition to the diplococci, he has also described four varieties of bacilli as being often present in the disease. No. III seems to differ from them all. It resembles most closely the *Bacillus fluorescens lique-*

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faciens, being, however, larger and non-chromogenic. These differences are enough to warrant separate classification.

Inoculation experiments were attempted in twelve cases. The site of inoculation chosen was the hairy scalp, or over the sternum.

After thoroughly sterilizing the skin, two or three hairs were pulled out and the skin slightly abraded, as in vaccination; portions of an actively growing culture were then rubbed in with a sterilized platinum needle.

With No. III two attempts were made and both failed.

With No. I five attempts were made. Of these, one was a failure. In the four others the edges of the inoculation spots began to grow slightly reddened from the fourth to the sixth day, and small scales formed on the surface. By the seventh to the tenth day the spots had increased in size and were covered with dry white scales. Scales taken from these spots and placed in suitable culture media in each case gave rise to pure cultures of diplococcus No. 1.

Variety No. II was used once. On the sixth day yellowish scales appeared over the surface. They grew slightly more marked on the tenth day, and the lesion then closely resembled certain typical forms of seborrhoic eczema. Diplococcus No. II was found in the cultivations from these scales.

The last four inoculations were made with both No. I and No. II. Of these, one was a failure. Another showed a small spot covered with a few branny scales, too small to allow of any conclusions being drawn. In the other two a change began on the fourth day. The bases began to redden, and typical crumbly, greasy scales began to cover the surfaces and pile up in the centres. On the eighth day the spots were an eighth of an inch across and represented patches of seborrhoic eczema. Both Nos. I and II could be cultivated from these scales.

It is possible that Variety No. II may have given the yellow color to these scales, as it was absent in the successful cases using No. I.

The result of the twelve inoculation experiments, therefore, are: Five failures. Seven cases in which definite lesions were produced.

The percentage of successes is certainly large enough to show that either No. I or No. II, or both, bear some definite causative relation to the disease, but the number of cases is too small and the experiments too incomplete to draw any general conclusions. Certain probabilities may, however, be fairly deduced:

1. That eczema seborrhoicum is caused by a specific germ or germs.

2. That this germ is a diplococcus, or that they are diplococci.

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3. That the yellow color often seen in the eruption is due to the chromogenic faculty of a germ.

4. That the wide prevalence of the disease is due to the ability of these germs to develop at the ordinary temperatures of the varying seasons of the year.

According to Dr. Merrill's report, we thus see that following the necessary steps and observing the prime requirements by which it may be judged whether micro-organisms found in a disease are pathogenic *per se*, and pathogenic in connection with the disease from which they were obtained, he determined :

1. The constant presence of certain micro-organisms in all cases of the disease examined, except in two, and in these the negative result was in all probability due to the factor he mentioned—the prior use of resorcin.

2. He cultivated these germs upon various media and obtained each in a state of pure culture.

3. He made inoculations with these pure cultures, and with two of them (Nos. I and II), singly and together, he produced lesions characteristic of the disease.

4. From the lesions produced he reobtained pure cultures of the germs.

I believe that these are the crucial tests for determining the pathogenetic influence of micro-organisms *per se* and in the production of a disease, and I think, therefore, that Dr. Merrill's work is of the very greatest importance and worthy of the highest consideration.

There were only seven out of twelve inoculations, however, which were successful, and it may in consequence be maintained that his experiments were not so very decisive, or there would have been uniform results. That would appear to me, however, to be hypercriticism, as positive and negative results occur in every series of experiments in which inoculations of bacteria are made, the one inoculated being refractory or immune, or the surface not at the time in a condition suitable for reaction toward the pathogenic element. Such states are allowed and claimed for diseases in general and of all kinds, and I do not see, therefore, why the same claim can not be postulated in seborrhoic eczema.

To myself personally the results of Dr. Merrill's work are particularly gratifying, as they corroborate so decidedly clinical observation. I have in every paper on the subject asserted my belief in the bacterial origin of the disease, basing my opinions, however, only upon clinical facts relating to its development, course, and general behavior, and especially upon the many apparently conclusive demon-

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strations of its contagiousness. This latter, as mentioned in my previous paper, was shown by its evident transmission from one person to another by means of direct contact in family life, by the use of hair brushes, etc., and the suggestion entertained upon these grounds that the disease was a parasitic and contagious one was, moreover, very decidedly strengthened in the last two years and a half by the clinical fact that a hundred and forty-seven of my three hundred and sixteen cases occurred in several or more individuals in families. From two to six persons in the same family have been treated by me, all having the same disease, and it was repeatedly possible to trace the transmission of the process from one member to another. Of course, such evidence was only suggestive, not conclusive, and positive proof of the parasitic nature of the disease had to wait until such work had been done as is contained in Dr. Merrill's paper and a definite micro-organism had been isolated. He has unquestionably demonstrated that the disease is a parasitic one, and he is the first who has by inoculation of pure cultures of his diplococci produced lesions characteristic of those seen clinically in eczema seborrhoicum.* Unna himself by his inoculations only produced vesicles on human subjects and redness with alopecia on rabbits, but no lesions distinctly those of the disease in question.

There is in Dr. Merrill's investigations one peculiarly interesting fact brought out by the inoculations, and shown in the difference of lesion produced according to the variety of diplococcus made use of. For instance, when No. 1 (a *non-chromogenic diplococcus*) was inoculated, a lesion having only dry, white pityriasic scales resulted. When No. II (a *chromogenic diplococcus*) was used, then the scales were yellowish and greasy. When both I and II were inoculated together, greasy, crumbly, yellow crusts were formed. These results are most certainly particularly suggestive when it is considered that precisely similar clinical phenomena are daily seen representing the disease, and they lead to the idea that the clinical differences presented by the lesions occurring in eczema seborrhoicum are probably due to the presence of diplococcus I alone or of diplococcus II alone, or of both at the same time. The question is of great importance and will undoubtedly be solved later on. Dr. Merrill's report is only a preliminary one, and after further work he may be able to settle definitely that point and many others which are of importance in the disease.

* In a letter to me Dr. Merrill has further stated: 1. That he did not obtain any of Malassez's flask bacilli in his experiments. 2. e also produced the lesions over the sternum by using cultures of his diplococci obtained from the scalp. 3. All successful inoculations on the scalp were accompanied by alopecia over the affected area.

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The demonstration that the affection is a parasitic one and inoculable will also hasten the recognition of the true pathological nature of those phases of cutaneous disease which make up the process eczema seborrhoicum. Previous to Hebra they were regarded as inflammatory in nature, but he swept them all into the category of disturbances in secretion of the sebaceous glands, and to them and other clinical phenomena he gave the name of seborrhœa sicca. This has been their position ever since, and only after Unna's first attack upon their misconceived pathological position has a conception of their real nature begun to make headway. He first pointed out that they were primarily inflammatory and not functional disorders in the quality of the secretion of the sebaceous glands, and subsequently in this country I have demonstrated that the various phases studied by me belonged absolutely in the class of inflammations. Now that micro-organisms have been found which produce, when inoculated, the clinical phenomena of "sehorrhœa sicca," it is probable that the disputed nature of the disease may finally be settled and properly understood.

The conclusions which I would make from the present series of cases of alopecia præmatura are not different from those made by me in 1892:

1. Heredity may be a cause of alopecia, but is an exceptional one.
2. Its most frequent cause is some form or grade of eczema seborrhoicum.

To these I would add:

3. That this disease, suspected and alleged to be parasitic in nature, has been demonstrated to be so in reality by Dr. Merrill's experiments and successful inoculations.

DISCUSSION.

Dr. Jackson: He was on record since 1892 for claiming that some form of seborrhœal trouble was at the foundation of the loss of hair in a large proportion of cases. In a paper read shortly afterwards, he stated that seventy per cent. of the cases of baldness had some complication on the part of the scalp. Still he thought there must be something besides the seborrhœa to produce the baldness. Many people lose their hair from time to time, but it grows again; many have dandruff their whole lives, and yet have plenty of hair. People recovering from fevers whose hair has fallen out, often have a great deal of seborrhœa accompanying the new growth of hair. It looks as if nature overdid it. While he believed that people with seborrhœa were prone to baldness, the seborrhœa was not the sole cause. He was glad to hear this report of the parasitic origin of seborrhœic dermatitis He had a summer residence in a very rural part of New York State, where the people are good and go to church regularly. He had remarked the

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absence of the usual bald heads so common in a city church audience; there was not one to be seen; and yet seborrhœa was plentiful amongst them, as a glance at their coat collars would tell. It seemed therefore to him that the falling off of hair was more common to the cities where we are not in such a vigorous condition as in the country; that the various factors which pull our constitution down play their part in the falling out of the hair and that seborrhœa alone was not sufficient.

Dr. Zeisler: He could not follow the reader in his bacteriological examination. Clinically he could quite believe, and always had believed that seborrhœa was the most eminent and the most frequent cause of the loss of hair. In his cases of premature alopecia he directed his treatment to that condition. Even where they do not consult him about it, he always informed his patients that the seborrhœa was bound to destroy the hair in time.

Dr. White: He would like a little more evidence as to the inflammatory process causing seborrhœa, before he would be inclined to accept the term dermatitis seborrhœica as the proper one. In the vast majority of cases none of the conditions are present which he would call a dermatitis. While he agreed that in young people the loss of hair was due to seborrhœa in the majority of cases, he thought that the percentage of hereditary cases was much larger than stated by the reader. With regard to Dr. Jackson's remarks as to the lessons to be learned in a church, he believed that bald heads were more frequently seen in a theatre, and he had no doubt that if they had a theatre in that little country place alluded to, and could get the people to attend, bald heads would be found. He had often wondered as to the cause of the loss of hair among the habitues of the theatre. He believed the frequent washing, so much more common in the city than in the country, had something to do with baldness, frequent washing being bad for the hair.

Dr. Bulkley likened his views on this question to those he had already expressed on the subject of eczema, namely that the parasite will only grow when the soil is prepared for it; and lacking this latter condition it may exist and be present on the scalp without causing any falling out of hair. He thought that if persons who were before subject to eczema were taken for inoculation, you could probably communicate it from one person to another much more rapidly than to the healthy individual. He would like to know concerning the condition of the twelve patients upon whom the inoculations had been performed, concerning the five in whom it failed, and the seven in whom it succeeded. He thought if the twelve inoculations had been made on the same person, and one previously subject to the disease, they would have succeeded better. At the same time he was quite convinced of the parasitic origin of a large number of cases of baldness. He would like to call attention to the great growth of hair and absence of loss of hair among people who eat dark breads, or bread made from dark flour. Wheat flour, it appears, is not favorable to the growth of the hair. Fats are also conducive to luxuriant hair. He instanced the nations in which the coarser foods were much employed, that is, the dark bread and the fats, as being blessed with

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abundant hair, and said the more we cut off the fats and phosphates from our diet, the greater will be our loss of hair. He found the original suggestion of Unna for the use of resorcin of great service in these cases of premature alopecia; and in fact found that the falling out of the hair was generally arrested by the anti-parasitic treatment. On the other hand though able to check the fall of the hair, he found difficulty in most cases to stimulate growth, and in fact this latter he could only do in those patients in whom he could control all the circumstances relative to hair nutrition, that is destroy the parasite by drugs, stimulate the tissues by diet, etc., etc.

Dr. Wigglesworth: He agreed with Dr. Bulkley as to the importance of diet to the growth of hair. The dentists nowadays are dieting people for the benefit of their teeth, and the coarse foods which make teeth grow will do a like service to the hair. With regard to the question of dermatitis seborrhœica, he could not see the advantage of this name over the old one seborrhœa sicca; it was simply a case of giving a new name.

Dr. Elliot: In answer to Dr. Wigglesworth, said he did not think there existed any such condition as dry seborrhœa. What had been included under that name were simply conditions of catarrhal dermatitis or of some other pathological process.

Dr. Wigglesworth: Well, that condition which Dr. Elliot does not think exists, Kaposi calls seborrhœa sicca. The latter author and the speaker himself had both written papers on this subject. He did not believe in heredity, except as applicable universally. When we have similar manifestations in parent and offspring it was better to consider the same cause at work. The important point is, now that we have reached the knowledge of the fact of the contagiousness of the disease to warn people of this fact and lead them to exercise more care in the use of toilet articles. The indiscriminate use of hair brushes and other articles of the toilet at hotels, clubs, etc., should be condemned. Relative to the prevalence of seborrhœa associated with luxuriant hair in a certain class of people he thought that might be explained by the fact that the hair grows in the horny layer, and that anything which stimulates the one stimulates the other; a rapid growth of hair then means a rapid exfoliation of the horny cuticle, and hence the apparent seborrhœa with luxuriant hair.

Dr. Robinson: He believed there was a condition not mentioned by Dr. Elliot, in which the hair falls out at the forehead and backward from that point, without any accompanying seborrhœa. This condition in the majority of cases, he thought hereditary. It is entirely different from the alopecia which commences on the top of the scalp, and is accompanied by seborrhœal eczema. There was a physiological life duration for the hair the same as for the whole body, the age of parents determines the age of the children, and the age of the hair is determined in a somewhat similar way. Because certain forms of long continued seborrhœal eczema were frequently followed by an increased growth of hair, he did not think that the process was a dermatitis, but rather an hypertrophy or over stimulation to growth of the epidermis, which injured the hairs by over pressure.

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Dr. Robinson then spoke of an organism found in the skin which was difficult to remove and which he called the staphylococcus epidermis albus, and he wondered if it bore any relation to the one described by Dr. Elliot. Of this organism he had made many pure cultures and injecting them into the scalp, never failed to obtain falling out of the hair, not in a small area, but sometimes in patches as large as one and one-quarter inches in diameter, and without any sign of inflammation whatever. On the other hand, injections of hot water and other indifferent substances in the same person, produced no effect. It seemed that a poison was for a short time formed which had a very deleterious effect upon the hair. He thought then that these organisms, when the tissue of the scalp for some reason became a favorable soil, quickly developed and wrought their destructive changes.

Dr Klotz stated that his experience was fully in accord with that of Dr. Elliot.

Dr. Bowen said he was not able to convince himself from the histological examinations of Drs. Unna and Elliot, that the dermatitis in these cases is always primary and dominant. Yet he wished to keep his mind open; and he hoped that these observations of Dr. Merrill's would be continued and elaborated.

Dr. Sherwell: He did not agree with all the conclusions of Dr. Elliot, still he believed it a paper which should be carefully considered.

Dr. Elliot gave the reasons why Hebra called this disease seborrhœa sicca, namely, because in the scales there was a large amount of fat. Kaposi and the Vienna school declared that soborrhœa sicca included such diverse conditions as pityriasis capitis, eczema of the umbilicus, some cases of balanoposthitis, and the harlequin fœtus, etc. The whole subject appeared to him so irrational that he had given it up altogether, particularly as his histological studies of the various phases was in agreement with that of other investigators, viz.: that the group called seborrhœa sicca represented not a seborrhœa but distinct and related processes unconnected with the sebaceous glands. He was much interested in the remarks of Dr. Robinson. He did not think, however, that the excessive accumulation of diplococci could alone produce the pathological symptom baldness, which must be due to atrophy. The aperture of the hair-sac is dilated, funnel-shaped, and filled up with masses of horny epidermis. This certainly exerted a certain amount of interference with the growth of the hair, and pressure atrophy of the hair papilla ultimately took place. Whether the diplococci described or their ptomaines interfered with the nourishment of the skin has yet to be worked out. He, however, was positive that Dr. Merrill's germ was a diplococcus and not a staphylococcus, further he cannot say owing to the briefness of Dr. Merrill's paper. It seemed to him that if the internal causes of such diseases were so important as some gentlemen claimed, it was strange we did not oftener see these local conditions cured by constitutional treatment, and also did not find the disease more usually widely spread over the body. He has treated patients suffering from seborrhœal eczema for three months by dieting, etc., without any benefit; whereas on local treatment the patient has been well in three weeks.

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DR. PRINCE A. MORROW, of New York, read a paper entitled

A CASE OF URTICARIA PIGMENTOSA OF OVER TWENTY YEARS' DURATION.

The case which forms the subject of this paper first came under my observation in July, 1876, and was presented before the New York Dermatological Society at the October meeting of the same year. Aside from the fact that this was the first case of urticaria pigmentosa recognized in this country, and the third or fourth recorded in medical literature, it possesses a special interest from the prolonged period during which it has been under observation, and the opportunity thus afforded of studying the natural history of a disease abandoned to its own evolution, and practically uninfluenced by treatment.

A careful observation of the clinical course of the cases of urticaria pigmentosa hitherto recorded would seem to show that it is essentially a disease of infantile life, due probably to some congenital predisposition, which shows a spontaneous tendency to disappearance toward the eighth or ninth year, and almost certainly before the period of puberty. In my case the duration of the eruption has surpassed these limits, while its persistence, with but slight modifications, into adult life, renders it quite unique. Within recent years a few cases have been recorded as having come under observation for the first time when the patients were from seventeen to nineteen years of age, but the previous history was obscure, and the precise date of development of the eruption was more or less problematical.

Cases of urticaria with pigmentation have also been recorded as having developed for the first time in adult life, but Crocker and others have thrown doubt upon the propriety of classing such cases with the disease under consideration.

At the present day urticaria pigmentosa no longer possesses the distinction of representing a rare form of skin disease. Paul Raymond, in his elaborate thesis on this disease (1888), gives a *résumé* of twenty-nine cases that had been recorded up to that date. The statistics since then have been carefully looked up by my assistant at the New York Hospital, Dr. Lapowski (to whom I am also indebted for several recent references), and comprise an equal number of cases, making a total of fifty-eight cases recorded under this title. It is questionable whether some of these cases, especially those developing in adult life, should be included in this category. Arning believes that the cases in which the eruption has appeared for the first time from the fifteenth to the fortieth year are probably not urticaria pigmentosa proper, but ordinary

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urticaria ending with pigmentation. He believes it to be an intra-uterine disease in some cases.

The photograph I now present (Fig. 1), taken two or three months ago, gives a fair idea of the appearance of the eruption over a limited region of the back, and shows the letters constituting the words "urti-

Fig. 1.

caria pigmentosa" distinctly traced upon the surface. This property of the skin, known as factitious urticaria, but more properly termed *dermographism*, by virtue of which any impression made upon the skin is revealed by elevated lines or characters corresponding to the tract of irritation, has been a constant feature of the case from the first. This phenomenon has been recorded in about one-third of all the cases

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reported. If it was manifest in the others it was unrecognized, or at least unnoted by the observer. In several cases the absence of this phenomenon was distinctly stated.

I would call your attention to the greater relative susceptibility of the pigmented lesions to this urticarial reaction as compared with the sound skin which is clearly manifest in the picture. You will observe that the lines forming the letters are not elevated uniformly, but that they present a moniliform or beaded appearance, each prominent bead representing the site of a lesion. This is especially noticeable in the downward stroke of the letters U, I, and P. These beads also give an accurate idea of the close approximation of the pigmented tubercles.

For purposes of comparison it may be well to give a *résumé* of the more characteristic clinical features of the case in the earlier stages, and thus note the retrogressive changes which have taken place in the eruption during the past fifteen years. From the *Archives of Dermatology* (January, 1879), in which my report of the case was published, I quote:

"The patient was a well-nourished, healthy-looking child, nearly two years of age. The body was covered with an eruption which had existed since the child was six months old, and which the mother states came out a month or two after vaccination. The spots varied in size from that of a pea to a ten-cent piece. They were distinctly elevated, and papular or tubercular in character. They covered the face and entire body, but were most abundant on the back and over the flexures of the joints—a few could be seen on the palms of the hands and soles of the feet; ordinarily they were of a pale-yellowish color, but when the child cried or became excited they changed to a reddish or bright-scarlet hue. When violently rubbed or scratched, the elevations became more marked and the surface appeared as if nettle-stung.

"During the next twelve months there was quite an appreciable series of changes in the physical characters of the eruption. It was marked by an obvious increase in the number of pigmented spots, and the appearance, successively, of small crops of tubercles or nodulated masses, which were irregularly distributed, more frequently observed on the back, between the shoulders, and around the neck. These masses, which projected several lines above the surface, were not rounded or conical, but irregular in outline, as if formed by an aggregation of small nodules. They varied in size from that of a coffee-grain to that of an almond. When newly formed they were pinkish or bright red, but as they grew older they assumed a pale-yellowish or brownish color. They were firm to the touch, often of a pearly luster, giving a deceptive indication of fluid. Repeated punctures, however, were never followed by the escape of pus. Some had the appearance of a solid, lardaceous deposit, over which the skin was tensely stretched. They seemed to be capricious, both in their evolu-

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tion and retrogression. They would develop suddenly, always after an urticarial attack, remain stationary for a variable time, and then undergo a rapid process of involution. I have frequently marked one or more of these protuberances with indelible ink, and on the next visit, a week later, they had entirely disappeared. Repeated observations showed that their average duration was from one to three weeks; sometimes, but rarely longer.

"In August, 1888, the mother again brought the child to me for treatment. From notes taken at that time I read: A marked change may be observed in the appearance of the eruption. Only two or three of the tubercular prominences are to be seen, but the pigmented spots are more thickly disseminated. With the exception of a limited area of healthy skin at the root of the nose and over the malar prominences, the eruption covers the entire surface of the body; the palms of the hands and soles of the feet are profusely studded. They may be traced up into the hair, but do not occupy the superior region of the scalp; they are most abundant over the occipital portion, where the head presses the pillow in lying. A number may be seen upon the eyelids. The left upper lid was occupied for a while by one of the tubercular infiltrations, which prevented the retraction of the lid, compelling the patient to keep the eye partially closed. It was soon absorbed, leaving no trace but a patch of pigmented skin strikingly suggestive, both in outline and color, of a patch of xanthelasma. A few may be seen upon the penis and scrotum; they are numerous in the perineal and anal region, extending quite to the margin of the anus.

"On the trunk the spots have coalesced at their margins and lost their distinctive form, exhibiting a configuration altogether bizarre and impossible to describe. On the limbs the spots are abundant, but generally discrete.

"The mucous membrane of the palate and fauces is seen to be occupied by these spots, although the yellowish hue characteristic of the surface eruption is wanting.

"The color of the spots varies from a pinkish to a yellowish-brown tint, which deepens into a dark red, almost livid hue when the surface is hyperæmic. Upon the neck, chest, abdomen, and back there is a decidedly greenish cast in the pigmentation. These spots, upon pressure, lose their reddish tinge, but the yellowish stain remains unaltered.

"Most of the spots are elevated—some of them imparting a soft, velvety feel, like the sensation communicated to the finger when passed over the surface of a mole. A close examination of some of the patches reveals a condition altogether unique, according to my observation. There is a distinct hypertrophy of the epidermis, which seems to be pinched up and lying loose, very much as the epidermis of a blister from which the fluid has partially exuded. This redundant epidermis ordinarily lies in minute wrinkles or folds, which, during the urticarial orgasm, become distended and form the characteristic wheals. This could be verified at any time by irritating an individual patch with the point of a pin or other instrument.

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"Other patches, not so elevated, exhibited a curiously checkered appearance. They seemed to be studded with a number of small, flattened papules, separated by transverse lines or furrows—an appearance not unlike that of the skin over the knuckles and exposed joints when viewed through a magnifying glass. By putting the skin upon the stretch, these elevations could be obliterated temporarily.

"In this connection I would state that there was a marked difference in the duration of the wheals produced through sympathetic influence and those factitiously developed. Some time ago I had the case photographed. By moderately firm pressure with a blunt instrument I traced the letters U, P on the back, between the shoulders. In three minutes they appeared in the form of fully developed wheals. The child was much frightened and excited, and I observed on the neck, chest, and sides a copious eruption of wheals, which corresponded exactly with the configuration of the patches. These last subsided in a few minutes after the child was quieted, while those artificially produced remained out several hours, leaving in their train a half-dozen or more semiglobular protuberances, which did not disappear for several days. I have observed, as the effect of an unusually severe irritation, small vesicles, and at one time a large bulla, upon the surface of the prominences, but they dried up in the course of four or five days. There has never been any suppuration. The temperature of the skin, when actively hyperæmic, was raised from two to three degrees. Repeated experiments with Stewart's surface thermometer confirmed this observation.

"The eruption has not materially affected the child's health. He has frequent attacks of epistaxis, more or less violent, which usually come on at night; once or twice they have proved quite threatening in severity. He has never had jaundice or any symptoms of liver derangement."

The patient was under my care at occasional intervals for several years, when he passed from observation and did not present himself again until March, 1895. He was now over twenty-one years old, nearly six feet in height, of stalwart, vigorous frame, with every evidence of perfect health. During this period, he informed me, his general health had been good; when about eight years old he had a mild attack of measles which kept him in bed only two or three days. The attacks of epistaxis had occurred with progressively decreasing frequency up to the period of puberty, since which they had ceased altogether.

The pigmented lesions have faded from the face, hands, and feet, the back of the scalp, and the mucous surfaces. The skin of the face has a decidedly pinkish tinge, becoming rapidly flushed or hyperæmic from the slightest emotive cause.

The eruption is abundant upon the front of the neck as far as the chin; a line corresponding to the condyles of the lower jaw would

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mark its facial limit. Upon the back of the neck the lesions extend quite up to the margin of the hairy scalp. Upon the arms they extend downward to the wrists, and upon the lower limbs to the ankles. Upon the limbs they are for the most part macular, and vary in size from a three-cent piece to a ten-cent silver piece. Upon other covered portions of the body, the surface of the trunk and nates, the eruption, with perhaps a slight modification in the size and color of the lesions, remains practically unchanged. The entire surface is thickly studded with slightly elevated pigmented lesions, each of which presents the curiously wrinkled appearance noted in childhood, as if the epidermal covering were too large for the subjacent derma. The lesions are all elliptical or elongated in shape, and the furrows or folds of distended epidermis are directed in the long axis of the lesion. This rugose condition was distinctly appreciable to the touch as well as the sight, and is admirably shown in the accompanying photograph (Fig. 2). The arrangement of the lesions seems to correspond roughly to the lines of cleavage of the skin. On the back and sides of the chest they are directed somewhat obliquely, on the abdomen transversely, to the axis of the body. The large nodular masses which formed a distinctive feature of the earlier stage are no longer present, although the patient says that they have continued to appear at long intervals.

There are, however, to be noted certain features of the eruption which were not present in childhood. Upon the sides of the trunk and back there may be seen, interspersed among the old lesions, quite a number of pinhead to small pea-sized reddish-brown elevations, the dark coloration of which contrasts with the lighter pinkish tinge of the pigmented plaques. They are suggestive, both to the sight and touch, of minute pigmentary moles. Upon the summit of the right shoulder there is a patch of pigmented skin, irregularly triangular in shape, about one and a half by three-fourths of an inch in area, not elevated, and of a yellow or fawn color, something like a nitric-acid stain. The surface of this patch was slightly irritated, and within three minutes became elevated several lines above the niveau, the tint changing to a light straw color. Again, there may be seen upon the back, the neck, and abdomen a large number of little tabs of skin several millimetres in length, which look and feel very much like minute acrochordon, only they are more flattened and triangular in shape. They seem to spring from the borders of the atrophied lesions and ordinarily lie flat on the surface, but may be readily raised by passing the hand over the skin. These tabs or teatlike bodies probably represent a retrogressive change in the lesions. I was unable to determine the nature or mode of formation of these curious bodies.

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My suggestion to remove one or two of them for examination was the signal for the patient's disappearance. The pruritus, which was formerly most annoying and almost constant, has become quiescent and

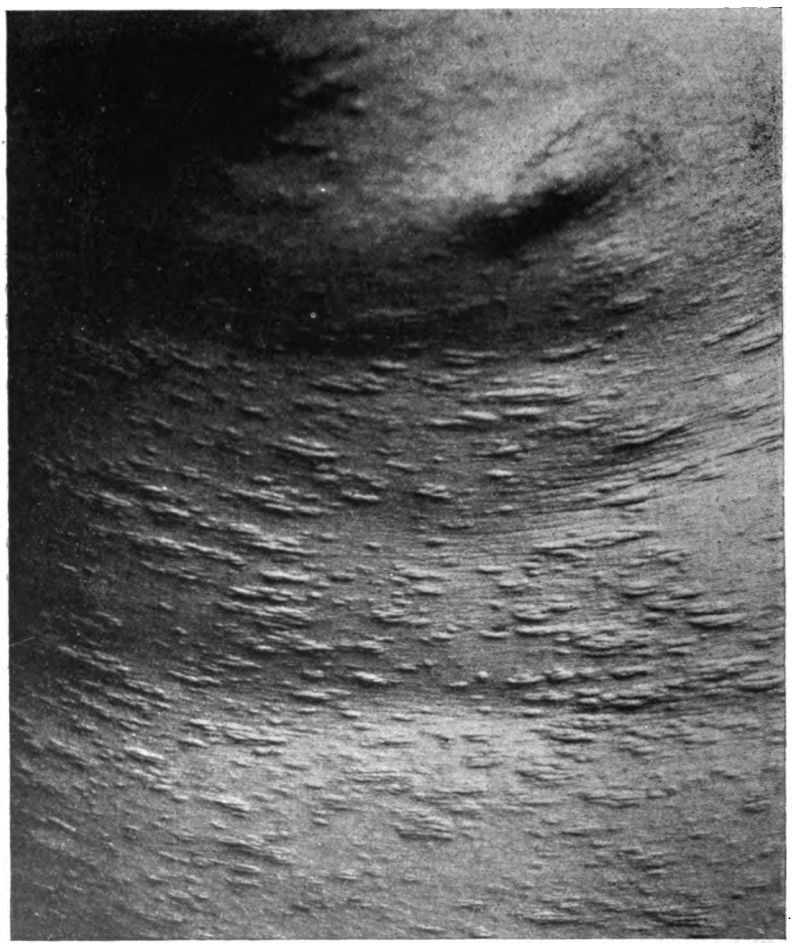

FIG. 2.

is only experienced at rare intervals, when the patient becomes overheated or the surface is irritated by rough undergarments.

Pathology.—The two most interesting points in this connection are the histological structure of the tubercles and the origin of the pigmentation which gives to these lesions their characteristic tint. Owing to an invincible objection on the part of my patient I have been unable

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to secure a portion of the skin for microscopical examination. Repeated examinations of excised macules and tubercles have been made by Thin, Pick, Unna, Raymond, Neisser and others. Unfortunately, there is a lack of accord among investigators as to the pathological findings and their proper interpretation. Thin's conclusion that the structure of the tubercle was indistinguishable from that of lupus is entirely unsupported by others. Pick found minute extravasations of blood in the derma surrounded by small cells, the papillæ enlarged, and the epidermis unaltered. Unna declared that the hæmorrhagic foci described by Pick were purely accidental and in no way related to the pigmentation. According to his view, the tubercle is made up of a conglomeration of "mast" cells, closely aggregated in heaps surrounding the vessels, between which heaps lymphatic channels appear when spastic œdema occurs. These "*Mastzellen*" are not united migratory cells, but originate *in situ* from the connective-tissue cells by absorption of the nuclei of the mast cells. The coloration is due to crystals of hematin and pigment granules deposited in the prickle cell layer. This view has been confirmed by Neisser and others, and with some modifications has been generally accepted.

Nature and Pathogeny.—Notwithstanding the abundant opportunities for the clinical and miscroscopical study of this curious dermatosis there are still many points relating to its nature, pathogeny, and pathological relations which have been by no means definitely determined. The name given to it by Sangster has been generally accepted, even by those who do not admit its substantial identity with urticaria, simply as a matter of convenience. By most recent text-book writers it is described as a variety of urticaria. While it presents many analogies with this affection, especially with the form known as urticaria perstans, yet it must be conceded that in its clinical course and anatomical changes it presents many points of difference, while it is especially distinguished by its hyperplastic formations and permanent pigmentation.

Unna says: "Ordinary urticaria is a plain angio-neurosis, without any histological substratum; urticaria pigmentosa is a primary, persistent, progressive, and trophic disturbance of the skin. The œdema in the latter is limited to the papillæ, while in urticaria simplex it is spread over the whole affected skin. The clinical fact that the eruption never changes its localization shows clearly enough that from the beginning a deep-rooted disturbance in the structure of the skin took place."

Raymond, in his admirable study of the disease, says: "By its course, by its symptoms, objective and subjective, by its slow evolu-

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tion, tending to cure after several years' duration, by its histological alterations, urticaria pigmentosa is clearly distinct from other processes which it is found convenient to group under the denomination of urticaria. Further, urticaria pigmentosa constitutes a special morbid type, an affection with a physiognomy so distinct that it becomes impossible to consider it as a simple variety of urticaria."

Another point of interest is the relation of the pigmented patches to the urticarial wheals. Do the former ever occur as primary phenomena, or are they always consecutive to the urticarial wheals? In some cases they have been observed at birth or within a few days thereafter. In such cases, obviously, if urticarial attacks preceded their development, they must have been intrauterine.

It is a clinical fact that the urticarial reaction is invariably intensified in the pigmented patches. In my own case the sound skin has always been subject to factitious urticaria, although in a less pronounced degree than the pigmented lesions. In other cases, however, the sound skin was immune to this reaction, and it was only after the development of the pigment patches that the particular areas they occupied became endowed with this urticarial aptitude.

Again it may be asked, Are the urticarial elevations and the pigmented patches expressions of the same or different morbid processes? Is there a causal or merely a coincidental connection between them!

Upon this point Neisser says: "I have not the slightest doubt, that in urticaria pigmentosa we have to do with '*Mastzellen Tumoren*,' but how explain the connection between urticaria and the '*Mastzellen*'? I believe that the two stadia—urticaria and tumor-like formations—are two entirely different things, each for itself, and a causal connection between them is not clearly established. The tumors are of an inherited born disposition, like the embryo deposits in tumors. The urticaria is only the chance cause of their apparition—the same connection as between xeroderma pigmentosum and erythema."

In the present state of our knowledge it is impossible to give a satisfactory solution of these pathogenic problems. We must recognize, however, that there is in almost all cases a history of urticarial attacks preceding the appearance of the pigmented patches, and this urticarial tendency is present from the inception of the disease and manifest during its entire course. The urticarial element is a salient, distinctive feature, and is just as essential to the complete morbid type as are the pigmented patches. My own view, as expressed in my original article, was that the hyperplasia and pigmentation were the result of the intense and more or less constant congestion of the skin

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consequent upon the frequently recurring attacks of urticaria. In opposition to this view it has been claimed that pigmentations have been observed to promptly follow wheals of the skin experimentally produced, and that in such cases long-continued irritation could not enter as a pathogenetic factor.

My object in reporting this case was to make a contribution to our knowledge of the clinical history of urticaria pigmentosa rather than to discuss the vexed question of its identity with urticaria. I have always been disposed to regard it as belonging to the urticarial group rather than as representing a distinct type of disease. Certainly the underlying pathological conditions which give rise to the phenomena must be much the same in both affections. In all urticarias we assume the existence of a specific predisposition of the nervous system to vaso-motor disorder. In a disease in which the angio-neurotic phenomena are attended with trophic changes there is evidently a more profound disturbance of the nervous system. In urticaria pigmentosa there is, conjoined with this vaso-motor hyperexcitability, a disorder of the trophic centers which regulate nutrition.

DISCUSSION.

Dr. Hyde: He thought this paper marked an era in the history of the Association. In listening to this report his mind went back to the first meeting held at Niagara Falls; and when he heard a member reporting a case for twenty years under observation, he felt that they all were getting on. If every member could do as much, how valuable would be the papers presented. The speaker saw his first case of this disease in New York City, at a meeting of this Association; since then he had seen three cases in Chicago, two in private and one in public practice. (After a few words of explanation between Drs. Hyde and Morrow the former learned that the patient he had seen in New York—to which he referred as his first—was the subject of this very paper, Dr. Morrow although not then a member of the Association, having shown the patient then by request.) From a study of these cases he (Dr. Hyde) was of the opinion that there was a difference to be drawn between the ordinary forms of urticaria and urticaria pigmentosa, although in view of our present inadequate knowledge, it might be better to consider them in the same category. The phenomena shown here do sometimes occur where we have a permanent instead of this transitory condition. He had photographed lately a condition similar to that presented here where there was no appearance of little nodules between or along the lines. It was the case of a young woman, who from earliest infancy had exhibited the same sensitiveness of the skin; the mildest external application had always been sufficient to produce the irritation without pigmentation. Is it not possible that this disease may occur without pigmentation?

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Dr. Bronson thought the persistence of the lesions in certain situations as shown by the photographs, a very interesting feature in this case. He asked Dr. Morrow how long this appearance of factitious urticaria remained and whether when it disappeared, it could be revoked immediately or only after an interval.

Dr. Morrow: The patient was stripped forty minutes. Within fifteen or twenty minutes the lines intervening between the lesions would become effaced, while the urticarial elevations still remained persistent. By slightly rubbing the surface these lines had a tendency to reappear. The urticaria on the sound skin had a tendency to disappear in from 40 to 60 minutes. The patient himself on being asked to note particularly the length of time they remained visible, said two or three hours elapsed before they had entirely disappeared. As to revoking it immediately, he had never tried, but he thought it quite possible.

Dr. Bronson: The point is whether it would be possible to reproduce these same wheals the next day or two or three days afterwards. This answered, might determine a feature of some interest that occurred to him, viz., the localized character of the disease in urticaria pigmentosa in contradistinction to the haphazard character of the eruption in ordinary urticaria. The main point of distinction between them is the tendency of the eruptions in urticaria pigmentosa to recur at certain points of the skin, showing there is something peculiar at these points. This feature is well marked in this case. Although a perfectly graphic picture of urticaria factitia the wheals in the irritated lines are no more numerous than the pigmented spots elsewhere. It seemed to him that this implies something totally distinct between this disease and common urticaria, aside from the other distinctive characters mentioned—accumulation of mast cells together with coloring matter from the blood.

Dr. Bulkley: Though considering Dr. Bronson's point as very well taken, he thought there might be two conditions combined here. He believed more microscopic study was required to enlighten us on the matter.

Dr. Elliot referred to a case of this disease which occurred in a man who had been under his observation some five or six years ago, and which he had presented at the New York Dermatological Society. The trouble began when the patient was twenty-eight. The lesions were distributed particularly over the trunk. Every one of them presented the peculiar characteristics of urticaria pigmentosa. The pigmentation was dark. He had had the man under observation for several months and had observed absolutely no change in the condition. He excised some of the spots, and these showed under the microscope the mast cells around the vessels, as have been described by Unna, Raymond, Neisser and others. Under these circumstances, if we find a condition having all the important characters of disease, why exclude it from the same category?

Dr. White: One of the most notable features of this disease at present is its greater prevalency—or, at least, more frequent recognition—in England than in any other civilized part of Europe. The

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number of cases of this disease recorded in this association is very small (24). He himself had seen altogether only three cases, the latest being during the past summer.

Dr. Sherwell: He had reported one or two such cases. One certainly almost an analogue of the case now before us. He was inclined to think there were present in these cases two distinct affections. One case he had been long trying to get before the New York Dermatological Society, but so far without success. The patient was a Kentucky Irishman, standing over six feet, very muscular and robust. He was examined by the physicians with a view to obtaining an appointment on the police force. They, observing this condition, pronounced it syphilis on account of the pigmentation in these spots. He was in consequence temporarily disallowed, and on repeating his application, he was sent to me for the purpose of diagnosis. The character of the lesions satisfied the speaker that it was not syphilis, so he told the patient to inform the police surgeons of that fact, and then to return to his office, as he wished to examine further into the condition. The man did return, and the doctor thereupon made still closer examination, confirming his suspicions that he had to do with a case of urticaria pigmentosa. This case especially resembled Dr. Morrow's with respect to the hypertrophic lesions, some of which looked as if they had fluid in them—a sort of looseness of the tissue on these brownish and elevated little masses. The disease had existed in the speaker's case from very earliest childhood, yet it never seemed to interfere with his health. The description of Dr. Morrow's case in its later phases corresponds exactly with this case. He had hoped to get him before the Dermatological Society for the purpose of having his diagnosis confirmed, but, although the patient at first professed, in the heat of his gratitude, to be willing to go anywhere, he had since repented; and Dr. Sherwell had not so far succeeded in getting him to keep any appointment. His hope is now that he may secure him on some future occasion should he become sick and require medical attendance.

Dr. Allen: He had had one case of urticaria pigmentosa in his practice off and on for the past few years. With reference to the rapidity with which the urticarial wheals came out on the permanent lesions, or on the neighboring healthy skin, it habitually happened that in removing the clothing, or in indulging in slight scratching or rubbing after their removal, there was an almost immediate appearance of plaques as large as the palm, which became diffused over the healthy skin, and as well as the dark brown pigment spots. As to treatment, he had never been able to keep the man long enough under any kind of treatment to derive any marked benefit.

Dr. Morrow being called upon to reply to the members having taken part in the discussion, commenced with the statement of Dr. Elliot. He himself had not expressed any opinion as to the propriety of excluding or including cases which occur for the first time in adult life. The disease is one essentially peculiar to infancy, and we would naturally not expect it to develop for the first time late in life. Crocker mentions Dr. Elliot's case in his book and says he does not regard it as a case of urticaria pigmentosa.

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In regard to the factitious attacks they may be provoked in three ways: (1) Nervous excitement; (2) Overheating; (3) By artificial means. A point of interest in considering the pathogenic mode is whether these phenomena are evoked by a direct influence upon the peripheric ganglia connected with the vaso-motor centres, or whether they are of central origin, that is reflected from the nerve centres. In connection with this inquiry it is very interesting to note that persons affected with hemianæsthesia, for instance, are just as susceptible to the phenomena of dermographism as individuals with normal sensation, and in a number of cases it has been shown that an anæsthesia of one side makes an admirable ground, so to speak, for the development of these phenomena. Again, in anæsthetic lepers dermographism has been observed as a noticeable feature. Whether this peculiarity existed before the advent of the leprosy is unknown. Certainly the annullment of what we call ordinary sensibility does not interfere in the slightest degree with the development of factitious urticaria.

H. G. Klotz, M. D., of New York, read a paper entitled

THE INFECTED SCRATCH AND ITS RELATION TO IMPETIGO AND ECTHYMA.

Mr. President: I may owe you an apology for claiming some of your time for a common and trivial affection, particularly since I have nothing to communicate that will be entirely new to you. I believe, however, that the slight skin troubles occurring in daily life deserve our attention just as well as the more rare and interesting diseases, if not for our own sake, in the interest of the general practitioner who is likely to meet oftener with such cases in practice, and who must feel embarrassed if he can not distinctly recognize and denominate the same. It seems to me that in assuming the leadership in the special field of dermatology, we also assume some duties toward the general profession, among them, the obligation to so maintain our list of skin diseases that it will enable the practitioner to locate at least the frequent and common affections of the skin under one of its names. But I intend to show that a by no means rare skin trouble, which for the present I shall briefly call the infected scratch, has no legitimate place among the diseases now recognized by the association, and, if admitted into our statistics, enters there under false colors.

The infected scratch is most frequently met with among the patients seeking relief in public institutions, particularly in the dispensaries. It is characterized by the presence of a number of disseminated lesions of different size, bearing either a pustule—that is, a more or less tense elevation of the corneous layer of the epidermis filled with pus—or a dark yellow, brown, or blackish thin crust, or exhibiting a moist

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surface covered with pus. The pustules are not of a regular shape, sometimes round or oval, often with irregular peripheral indentations; they are usually considerably raised above the skin, tent or globe-shaped, without a central depression. They do not show any regularity in their distribution, are not symmetrically arranged or formed into groups, but usually discrete, sometimes arranged in chains. Under the crusts, in some instances, a slight loss of substance can be observed extending partly in the superficial layers of the cutis itself, and characterized by a certain infiltration of the basis. In adults the lesions are usually seen on the lower extremities, mostly below the knees, around the ankles, less regularly on the arms, around the wrists, and in the face. Most of the adult patients are males, almost always of unclean habits. In elder children the lesions are mostly found on the face, on the hands, and lower parts of the arms. In small children, while the face is somewhat affected in almost all instances, the pustules are distributed all over the body—hands, buttocks, and lower extremities being favorite seats. The lesions themselves do not itch, but may cause pain by rubbing against the clothes, etc.

Adult patients invariably state that they scratched, without assigning or presenting any particular cause for the itching; that the affected spots bled, then formed dry crusts, and soon after yellow blisters and crusts. In children a history of scratching will always be given. Examination of the patients, which in the first line has to determine whether pediculosis corporis, scabies, and other parasitic; urticaria, and other itching skin diseases can be excluded, easily confirms the history; scratch marks of various intensity are detected without difficulty, and often the lesions can be observed in their various stages of development—longitudinal dry red marks, then shallow furrows, then single eroded spots of the size of a pin's head or a hempseed, bearing a thin crust; then a small area of raised epidermis with yellow contents, and, gradually extending in height and width, the mature pustule; then the dried-up flat crust, which may have been removed by mechanical irritation, but nowhere and at no time can vesicles or bullæ with serous or seropurulent contents be found.

In some cases no cause for the itching is apparent, except perhaps pressure of tight clothing, the irritation due to hot weather and perspiration. In other cases it is obvious that the patients are not clean in their habits either from necessity or from inclination, or that they are obliged to be on their feet for long hours, often in overheated and dusty rooms. In children, older and younger, the presence of pediculi capitis or their nits can almost invariably be established, although in most instances the skin of the scalp may be perfectly intact and may

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not show the slightest lesion. At the instance of Dr. S. Pollitzer, my associate in the dispensary service, I have of late paid more attention to this fact, and have been able to confirm it in almost every instance, so that I can not consider it as a mere coincidence. Why the presence of the pediculi on the scalp should produce itching on often remote portions of the body, without affecting the region inhabited by the insects, I am unable to explain. In all such cases the excoriations from scratching and subsequent formation of pustules are the only visible changes of the integument, and apparently the primary and essential symptom. In other cases we find evidence that some other cutaneous lesions have preceded and have been the direct cause of the itching—urticaria, particularly if caused by the bites of mosquitoes and other insects. The restriction of the lesions to portions of the body usually exposed during sleep often indicates the cause of the scratching. In pediculosis corporis, rarely pediculosis pubis, in scabies and prurigo, similar conditions are met with. Here the infected scratch appears as a secondary affection, but quite often as the only one present at the time of the observation.

After the investigations of several French authors (Leloir, Dubreuilh, and others), and particularly after the clinical and experimental researches of M. Bockhart (*Mon. f. prakt. Dermatologie*, vi., 450, 1887) there can be no doubt that suppuration in such cases is due to the infection with pus-producing cocci, in the majority with the *Staphylococcus pyogeneus aureus* or *albus* or both. The almost universal distribution of these microbes easily accounts for the frequency of such infections. It is not necessary now to enter into the question how the infection takes place, and what are its immediate effects on the tissues.

Mr. President and gentlemen, I have not the slightest doubt that you well know these cases and instantly and unhesitatingly recognize their nature; but if it comes to the question of giving them a name and bringing them under one particular head, there may be no such unanimity and perhaps some embarrassment if you once go to the trouble of thinking over it. Although itching, apparently without any visible change in the skin, is always the first disturbance, we can not well speak of puritus where the itching is not chronic or habitual, but, as a rule, more incidental and of a passing nature. We can hardly count the infected scratch under pediculosis capitis if the lesions are found remote from the location of the insects, and this itself remains unaffected. Impetiginous eczema probably is a diagnosis often made in cases of infected scratch, and perhaps correctly so if we are willing to adhere strictly to the teachings of Hebra and his fol-

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lowers, which indeed give very wide limits to eczema. Both affections may greatly resemble each other, and may indeed be combined in one individual, but there is a decided difference. Suppuration is not indigenous to eczema, but whenever it appears it does so as a complication, as a secondary infection with pyogenic cocci. It will be possible in almost all instances to prove that the exudation under the cuticle is originally serous and not purulent, that we have to do with vesicles and not with pustules, while in the infected scratch the pustule forms immediately. Differing from circumscribed lesions within healthy skin, the outlines of the eczematous patches are indefinite, showing a zone of inflamed and slightly infiltrated skin ; the itching is much more constant and severe. The eczematous nature becomes still more conspicuous when by some antiseptic treatment the suppuration has been suppressed, usually not a very difficult problem. Then the infiltration, in fact the eczema proper, will remain, while the infected scratch will heal without leaving a trace of a weeping or scaly or infiltrated surface, except perhaps slight redness of short duration. I shall briefly mention impetigo contagiosa, although it is a well-defined disease, invariably beginning with flaccid vesicles, which break down and dry up so rapidly that real pustules are but exceptionally observed.

A name which naturally would suggest itself is that of *impetigo*. If it ever had a definite meaning, it signifies a pustule, a circumscribed elevation of the corneous layers of the epidermis by an accumulation of fluid contents which are purulent from the very beginning. Besides impetigo contagiosa and herptiformis, which we need not consider, as they are almost generally recognized as diseases *sui generis*, another impetigo is not universally acknowledged. German and Austrian dermatologists since Hebra deny the existence of such a separate disease, different from certain forms of eczema. French authors have not always strictly separated impetigo and impetigo contagiosa. In 1887 (*loc cit.*) Bockhart again established impetigo as an original disease, and has been able to artificially produce it by inoculations of the *Staphylococcus aureus* and *albus*. His views were confirmed by Unna in 1893 (*Berliner Klinik*), and others in Germany have begun to acknowledge the convincing proof of Bockhart, and to accept his restoration of impetigo. Our own nomenclature has always recognized, and does so now, an impetigo simplex ; whether the association has ever officially decided upon a definition of this disease I do not know. But in a number of hand and text books, some written by members of the association, the authors give a description of impetigo which is based on the views of Dr. L. A. Duhring, of Philadelphia.

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Some, among them R. Crocker, bluntly state that they accept the existence of such a disease solely on Duhring's authority. Duhring himself defines impetigo as an acute inflammatory disease, characterized by one or more pea or finger-nail sized, discrete, rounded and elevated firm pustules, unattended, as a rule, by itching. The symptoms as described by Duhring are almost identical with those of the infected scratch; but it seems that according to his views the pustules appear spontaneously; he does not mention their formation on previously existing excoriations. Bockhart's description of his impetigo (he calls it impetigo Wilson, Unna calls it impetigo Bockhart) fully agrees with Duhring's, and his clinical and experimental observations clearly confirm the position of Duhring, whom, however, he does not mention. But while he distinctly pronounces the spontaneous appearance of the pustules, he admits another form of impetigo which he calls accidental. "It develops only during the course and as a complication of other itching skin diseases—eczema, scabies, prurigo. Its symptoms are the same as those of the idiopathic impetigo. Its origin is due to the inoculation into the skin by scratching with the nails of the pyogenic cocci which are accidentally present in the scratched skin or under the scratching nails." This accidental impetigo of Bockhart seems identical with my infected scratch, the only difference being that I claim its development not only secondarily as a complication of itching diseases, but primarily as the only abnormal condition of the skin.

Opinions similar to those on impetigo prevail in regard to ecthyma, the same uncertainty and discrepancy in the description of its symptoms and of its origin. In general, the symptoms attributed to ecthyma greatly resemble those of impetigo; the difference in the cutaneous lesions principally consists in the larger size of the ecthyma pustule, in the inferior tensity and smaller elevation, and in the presence of a slightly indurated basis, due to the deeper infiltration of the tissues, extending into the papillary layer of the cutis, but not deep enough ever to leave a scar. The ecthyma pustule undoubtedly owes its origin to the infection with the same pyogenic cocci; most likely in ecthyma the greater intensity of the local process is due to the impaired general health of the patients and to the influence of bad hygienic conditions. Scratching is admitted to occupy a conspicuous place in the ætology of ecthyma. In most instances I am inclined to consider ecthyma only as an aggravated form of infected scratch.

If we now look upon the statistics of this association, we find of impetigo, which Duhring and all other authors admit to be a rare disease, from 1877 to 1892 not less than 2,480 cases, or 1·161 per cent.; with 1893 added, 2,612 cases. From 1878 to 1887 we have 1,769 cases,

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or 1·43 per cent., but from 1887 to 1892 only 711, or 0·780 per cent., a decided decrease, which seems to be due in a certain degree to a more strict separation from impetigo contagiosa if we compare the statistics of both :

1877—'92—Cases of impetigo, 2,480, against impetigo contagiosa, 2,106.
1878—'87— " " 1.769 (1·43%), against impetigo contagiosa 600 (0·485%).
1887—'92— " " 771 (0·780%) " " " 1,508 (1·643%).

The analysis of the statistics of the last five years shows this change in the proportion between the two diseases even more prominently. The numbers of the single years since 1877 show a remarkable similarity in the frequency of impetigo, impetigo contagiosa, and ecthyma, particularly in the small number of cases reported in 1889-'90.

Ecthyma was reported from—

1877—'92..... 1,131 cases = 0·55 per cent.
1878—'87..... 726 " = 0·587 "
1887—'92..... 426 " = 0·467 "

There were reported in—	Impetigo.	Impetigo contagiosa.	Ecthyma
1887—'88	144	144	96
1888—'89	170	250	62
1889—'90	33	72	21
1890—'91	101	200	83
One half of 1891	112	442	94
1892	121	523	159
1893	132	268	50

If you consider these statistics, I trust you will agree with me that it is highly improbable, particularly in regard to impetigo, that all the 2,612 cases (including 1893) were actually cases of Duhring's impetigo, and that probably a large number of them were nothing but cases of infected scratch, or of the accidental impetigo of Bockhart, although they strictly are not entitled to be classed as such.

If, then, the infected scratch is not a real impetigo Duhring, nor an eczema, nor pediculosis, nor pruritus, I can not see that it has any legitimate standing among the diseases contained in our official list. But still it exists. Why it ought to be recognized and ought to have a place I have stated before. It could easily be done if we would give a wider latitude to Duhring's impetigo by the admission, besides the spontaneous idiopathic of the accidental or traumatic impetigo of

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Bockhart under the name of impetigo simplex traumatica. I am, however, by no means partial to the term impetigo, but should be only too glad to have it entirely abolished, together with others of the old Greek meaningless or misleading names. If it comes to the construction of new names, I unhesitatingly give preference to the attempts of French dermatologists, particularly of Brocq, to establish and substitute entirely new names based on, and apt to directly indicate, the character of the disease as far as it is known, over attempts to resuscitate such names as strophulus, which to the delight of many dermatologists, I trust, seemed to have been buried forever. I do not wish to go into the construction of new names myself, but several times I have come across a term in periodical literature which I should be glad to see generally accepted for the conditions primarily caused by the infection with pyogenic cocci, namely, pyodermia. It would be an easy matter to differentiate between impetigo Duhring and the infected scratch as *pyodermia circumscripta superficialis idiopathica* and *traumatica.* It would not be difficult to further construct similar names for the follicular and for the deep-seated cocci infections which we now know under the names of sycosis, furuncle, carbuncle and others.

DISCUSSION.

Dr. Fordyce said in his opinion all cases of impetigo and ecthyma were due to a local infection with some one or several of the pus-producing organisms. The nature of the lesion and the extent of the ulceration depended upon a superficial or deep infection, and, of course, to some extent upon the condition of the patient.

Dr. Robinson regretted the "mixed up" condition of the subject at the present time. He had lately read Unna's article and found he described nine different kinds of impetigo. The one now described would make ten. Such divisions are demoralizing to the student of dermatology and show the absolute impossibility of relying entirely upon etiology as a basis for a classification.

Dr. Hartzell: He did not think that either impetigo or ecthyma had any right to be considered more than mere incidents in the course of other cutaneous diseases—simply the result of infected scratches. They may be convenient terms; everyone knows what ecthyma is, although our ideas are not so definite as to impetigo. Impetigo, as described by Duhring, is a very rare disease, and a very different one from impetigo contagiosum. If when we use the terms impetigo and ecthyma, we understand them to indicate clinical varieties of certain lesions in the skin, then they are all right; but if we use them as designating separate pathological conditions, we are wrong.

Dr. Bulkley did not agree with Dr. Hartzell in his views as to the names ecthyma and impetigo; he thought they meant something more. He agreed with the reader of the paper as to the necessity of

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extending our nomenclature so that these scratch cases could be classified. He suggested that the Association's Committee on Nomenclature be requested to examine into the subject and make a report thereon.

Dr. Elliot agreed with Dr. Klotz. He had personally ceased to regard the majority of these cases as anything more than local conditions due to infection, which may have been brought about by scratching, or may have been caused by the rubbing in of the staphylococci into the skin. There is nothing distinct or specific about such cases. In his books nearly all of them are included under the head of local septic dermatitis, it mattered not what the lesion was like. As to the different characters of the lesions, he thought it depended largely on how far the staphylococci penetrated the skin. If it only penetrated the corneous layer a simple pustular lesion might result; if it penetrated the cutis you had a more severe type of lesion, and so on; that is, the farther down it went, the more pronounced the lesion. Under these circumstances he did not see the use of burdening ourselves with names.

Dr. White: He had something to say on this subject in his paper on germ dermatoses. He thought if we accepted the possibility of a pustular lesion not due to the staphylococcus, it would be well to keep the name impetigo for such. There is the pustular lesion in some forms of the syphilodermata, for instance. We may have a scratched skin for a life-time without infection. Cases of chronic dermatitis may go on for years, and not have any infection. There then must be something else besides the presence of germs which are always present.

Dr. Graham: He thought the name given by Dr. Klotz a good one, inasmuch as it assimilated the condition with pyo-thorax and other allied conditions. We recognize several forms of pyo thorax as caused by different pyogenic organisms. It seemed to him, however, that the name of the germ should be added to the name pyoderma.

Dr. Bowen said that he was glad the subject had come up, as there seemed a great deal of confusion all over the world as to what is meant by these separate terms. Of course, no one regarded the names ecthyma or impetigo as more than the names of symptoms. Yet we are obliged to classify these cases, and he found it difficult to know where to put them. There is only impetigo and impetigo contagiosa under which they may be classed. Are we to reserve the term impetigo for that rare form of Duhring's? What are we going to call impetigo contagiosa? Are we to limit its use to the typical cases, such as those mentioned by Dr. Fordyce—a very superficial pustular eruption, or are we to include under its head all cases of the infected scratch? And if so, where are the cases such as the one Dr. Klotz describes to be placed? It seemed to him a fit and proper subject for the Committee on Nomenclature to consider, with a view of arriving at some unanimity.

Dr. Zeisler: He thought we were now beginning to complicate matters. He had always been opposed to new names, as tending to confusion; and he believed the term impetigo as used at present was

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pretty clear. He referred to a very valuable paper on impetigo herpetiformis by Kaposi, who has distinctly laid down the conditions necessary before using the term impetigo. He thought that the original appearance of pustules was characteristic of impetigo; pustules appearing without the existence of any previous cutaneous lesion. Pustules accidentally produced in the course of some other affection, by scratching or otherwise, do not change the nature of that affection. As to impetigo contagiosa, it is pretty well established as a clinical entity—it is a contagious disease, chiefly occurring in children, mostly on exposed surfaces, etc. The speaker recommended that the infected scratch be included under the head of dermatitis traumatica, for it really was only one feature of that condition. If we proceed on the lines laid down by Dr. Klotz we would complicate matters very much, and would take down the barriers erected after years of work by dermatologists, to prevent such complications. He thought we had already too many names for skin diseases, and he did not believe the infected scratch deserved one for itself.

Dr. Sherwell: While much interested in the paper, and expressed ideas of the reader, he felt inclined to agree with the opinions of Dr. Zeisler.

Dr. Klotz said he wished to touch upon one subject which he had not mentioned in the paper, but which had been alluded to by one of the speakers (Dr. White), the comparative rare occurrence of the infected scratch on individuals suffering from real chronic pruritus. Perhaps these patients instinctively or from necessity were more careful in regard to cleanliness of the body and of their clothing, and therefore escaped infection, although he admitted that the condition of the skin itself might be responsible for the part.

He acknowledged that to a certain extent the infected scratch was rather a symptom or secondary lesion than a disease of its own, still there were cases in which no other symptoms were present. He fully agreed with Dr. Zeisler upon the evil of introducing new and unnecessary names; but as Dr. Bowen had said, even for the convenience of classifying, some term for this class of cases was required. Be it a symptom or a disease it is undoubtedly a condition which often confronted the practitioner, and he naturally would turn to the authorities for a name. He could find nothing to cover it but impetigo, yet he was told that this impetigo was a very rare disease which a dermatologist might see once in twenty years, or not at all, so he would hesitate to make such a diagnosis without being able to find a better one.

He was convinced that sooner or later we must have an entirely new nomenclature; he considered the existence of the old Greek names, which in the course of time often had three or four different meanings, as a great drawback and impediment to the development of dermatology. If all dermatologists would wake up one morning without even a memory of all these names, he had no doubt the progress of dermatology would be much more rapid and it would not be so difficult to unite upon a scientific nomenclature.

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GEORGE T. ELLIOT, M. D., of New York, read his paper entitled

TWO CASES OF AN UNUSUAL PAPULO-PUSTULAR AND FUNGOID BROMIDE OF POTASSIUM ERUPTION IN BABIES.

The question of cutaneous eruptions, the result of the internal administration of drugs, is one of peculiar interest to both the dermatologist and the general practitioner. The former sees many artificial conditions of such origin, which simulate in their clinical phenomena well-known skin diseases of entirely different origin and causation, and the latter is often confronted by cutaneous processes of his own making, which he fails to recognize, as the result of the drugs given by him, but he refers them rather to some peculiar and unknown cause, and regards them as an unfortunate complication of an existing disease. In consequence, I do not think an excuse is necessary in calling attention to such a *banale* subject as bromide of potassium eruptions, in view of the severe and exaggerated examples of the effects of the drug to which I would call your attention in this paper.

CASE I.—E. M——, female, aged nine months, came under my care June 5, 1894. Though born at full term and well nourished, she had always been susceptible to catching cold. When four months of age she had had tonsillitis, followed by a bronchitis, which had persisted for several months. During that time she had received some medicine, the nature of which could not be ascertained. When five months old she had developed a tonsillar abscess, which was opened four times. In the beginning of March an abscess, originating apparently from the same region, was opened externally on the left side of the neck, and a little later another one was operated upon on the right side. Prior to the opening of the first abscess the baby had been taking syr. ferri iodidi, gtt. xv. t. i. d. for two weeks, and shortly after the operation a diffuse erythematous eruption had appeared over the trunk. The exact duration of this "rash" was not ascertained, but it was stated that the iodide of iron was continued until March 30th, and the first eruption had been gradually succeeded on the body, the face, and the scalp, by crops of small pinhead-size pustules, which had dried up into small crusts and had left no trace of their presence.

Owing to an increase in the bronchitis the iodide of iron was discontinued March 30th and a mixture containing in each dose bromide of potassium, grs. iiss., acetat. of potass., gr. i., and a few minims of buchu, hyoscyamus, and Elixir of Calisaya was given every four hours. The pustular eruption then became more abundant and appeared on the legs, the arms, and over the body generally. These new lesions

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were larger and more deeply seated than the former ones; they did not dry up into crusts, but tended to increase in size and to become more prominent. The same medicine was continued until May 7th, and then the bromide was increased to grs. vss. every four hours. May 13th a further increase was made, and the baby received grs. xiss. every four hours, and this dose was kept up until June 5th, when she came under my care. The mother of the child was a very sensible and conscientious woman, and she told me that she had followed literally the instructions and had given her baby the mixture every four hours, or six times daily. She also furnished me with copies of all the prescriptions, and from them I have calculated that the baby had received from March 30th to June 5th, 2,376 grains of bromide of potassium.

The child was fairly well nourished when seen by me. Her mother nursed her. There were no gastro-intestinal disturbances and the bowel movements were normal in regularity, consistency, and color. She still had some bronchitis, however, and was decidedly anæmic. The eruption was very generally distributed over the body. Its primary lesion was a tense, deep-seated, and prominent papulo-pustule, varying in size from a pinhead to a small pea, and round, oval, or elongated in shape. It was surrounded by a narrow red zone, and sharply delimited toward the surrounding healthy skin. In the course of its existence it enlarged slowly to the size of a three-cent piece or larger, became prominent and covered with a yellowish, clear, glazed coating, beneath which yellow miliary points of pus could be seen, or progressing still further, it became elevated and fungoid in character, and covered with thick, soft, black or greenish crumbly crusts. The base upon which these rested was fungating and studded with miliary abscesses. Many pigmented and dark-red stains were also present, the sites of lesions, which had already undergone involution. On the scalp papulo-pustules and crusts were alone present. On the face small and large pustules were noted, and on the cheeks a few prominent, champignon-like growths. Only few of the lesions had attained this development on the trunk, and here only pinhead and a little larger papulo-pustules were seen. The extensor surfaces of the extremities were severely affected, and the flexors to a very much slighter extent. On the arms a large number of fungating growths were grouped together, though still remaining discrete, but on the legs confluence had taken place, and diffuse patches were found extending from the ankles nearly up to the knees.

To judge by the behavior of the child, itching was not a feature of the eruption, though it is possible that it was painful, in view of the baby's restlessness and insomnia. In treating the child, absolute dis-

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continuance of the bromide salts was primarily directed. Its functional health and its hours of nursing were properly regulated, and a tonic suitable for the existing anæmia was ordered. Externally an ichthyol ointment was applied to the lesions. Retrogression began very quickly and continued steadily, though for some weeks new pustules appeared, but were, however, of ephemeral duration. By the end of August no traces of the process remained except numerous scars marking the sites of the former growths.

Case II.—F——, male, aged six months, was brought to me June 15, 1894. He had been born at full term, was healthy and well nourished. He had been, and was still, nursed by his mother. No gastro-intestinal or other functional disturbances existed. About the middle of May he had developed a bronchitis, and had become restless and sleepless. May 21st his physician had given him

℞. Kali bromidi,
Sodii bromidi.....āā ʒ iss.
Syr. acaciæ..... ℥ ʒ iss.

M. Sig.: One-half teaspoonful every hour until the cough was quieted.

Calculating the dose ordered as representing thirty minims, the baby received three and three-fourth grains of each of the bromide salts each time the medicine was administered. This mixture was continued for four days, but was stopped May 25th, the baby's temperature having risen to 103° F. It then received

℞. Aconite.....gtt. xij.
Tr. opii. camph.
Spts. nitrosi dulc.
Spts mindereri,
Syr. scillæ..... āā ʒ ii.

M. Sig.: Fifteen drops every two hours.

At the end of a few days, the temperature having fallen and the baby's condition being improved, the original prescription of bromide was substituted for the aconite, etc., mixture, and given up to June 4th. On June 7th, the bronchial systems becoming worse, the child again received kali bromidi, two grains in syrup, every two hours, and this was continued until the 12th, or three days before I saw him. The cutaneous eruption had begun about June 1st, but had been slight and received little attention. It had subsided somewhat when the first bromide mixture had been stopped, but it had increased in quantity and in severity after taking the one given on June 7th.

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When examined by me the baby was found to have an eruption distributed quite abundantly over the scalp and the face, and also here and there on the extremities. It consisted of papulo-pustules, about the size of a small pea, or smaller, which on the scalp had formed around a hair-follicle. Many of these lesions were pierced by a hair. These primary lesions had enlarged on the extremities to the size of a penny, and they were prominent, sharply defined, surrounded by a narrow red margin, fungoid in appearance and covered with a glazed coating, below which minute miliary pustules could be seen clustered and aggregated together. In some instances thick crusts had developed.

In treating the child all the bromide salts were discontinued, and ichthyol was used locally. In a few weeks the skin was again normal. No perceptible scars remained even at the sites of the larger lesions.

The histories of these two cases thus show that an eruption of a severe type and of wide distribution, consisting primarily of papulo-pustules, and later of discrete, aggregated, and confluent fungating and crusted lesions, appeared after the ingestion for a more or less long period of time of a certain drug—bromide of potassium—and continued cropping out during the entire period of its ingestion, but subsided after its discontinuance. These particulars of origin, course, and involution represent the crucial tests determining the relation between a drug and an eruption, and being so decidedly apparent as they were in these two cases, it is perfectly proper for me to connect together the cutaneous disturbances observed and the bromide of potassium in the position of cause and effect. The great differences noted in the severity and the extent of the eruption in each of these cases are not of importance, in view of the fact that in Case I. the bromide was given for several months and in excessive doses, while in Case II. it was administered for only a short time and in such quantities as could or would be given with entire safety in the majority of cases. Besides, it must not be forgotten that the first baby received daily, for more than a month prior to the administration of the bromide of potash, forty-five drops of the iodide of iron, an inordinate dose for its age.

It is a well established fact that a bromine following an iodine compound will lead to exaggerated and intense cutaneous effects, and it is therefore not surprising that in this case the baby was so severely affected, so much more so than was the subsequent case which came under my care. Independently of the bromide of potash effect, the eruption which occurred while Case I. was taking the iodide of iron is most interesting. There are few cases mentioned in literature of the

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iodide of iron producing any cutaneous manifestations of iodism, though there is no reason why it should not do so, since it is not a very stable iodine compound, and the union between the two is easily dissolved, each then existing free in the solution. The eruption which did occur in the case (Case I.)—an erythematous rash followed by one which was papulo-pustular—was such as iodine produces, and the increased bronchial symptoms which developed with the administration of the drug certainly suggest that the baby was suffering from general iodism. It may be claimed, however, that the early erythematous rash was a toxic erythema unconnected with the iodine, but resulting from the tonsillar abscesses through absorption of toxines; or it might be regarded as one developing from shock after the operation of opening the abscesses. Such occurrences are perfectly possible, and rubeloid, scarlatiniform, and papulo-pustular eruptions have occurred very commonly under such circumstances. Such eruptions are, however, accompanied by febrile temperature, systemic symptoms of grave import, are usually of short duration, and very commonly followed by desquamation of the epidermis at the end of a very few days. None of these features were, however, met with in this case, but the rash persisted for a while and then disappeared, being followed by a higher type of eruption—the papulo-pustular—and this remained until the new drug—the bromide of potash—being administered, the subsequent symptoms, as already detailed, developed and existed until the medicament was discontinued. I do not think it is necessary to insist further on this point, as it cannot but be apparent to any one familiar with eruptions produced by drugs that there is no question but that the symptoms referred to were the result of iodine and not of any septic intoxication or of other cause.

The manner in which bromine and its compounds, or, in fact, any drug, produces its effects on the skin is a mooted point. In regard to the former, with which we are particularly interested, owing to the cases reported in this paper, there are many who regard the cutaneous manifestations developing after its administration as the result of an exaggeration in its physiological effects, believing that individual idiosyncrasy plays a small part and has little influence. There are as many others who attribute the eruptions to the local effects of the drug upon the glands of the skin, which seek to eliminate it from the system; and there are again others, who, believing in a more recent theory, find an explanation for the occurrence of the lesions in a supposed foreign material generated in the blood by the drug, which then acts directly upon the skin.

There is no question but that authorities can be found substantiat-

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ing either one of these opinions, but in view of our practical ignorance of the mode and manner in which the drug does in reality produce cutaneous disturbances, it would seem to me to be preferable to leave the choice of theoretical conviction to the prejudices or to the pre- or post-conceived desires of each individual observer, rather than by speculation to support one side or the other. I do this owing to the fact that positive proof in favor of one view or the other of the question is entirely wanting, and all that can be said is that the drug, when given to certain or perhaps the majority of individuals, does produce cutaneous lesions of greater or lesser severity, but how it does it, I frankly confess that neither observation nor theory has yet been able to satisfactorily explain.

The action of bromine and its compounds upon the cutaneous surface are manifold and multiform. Though the most common type of eruption produced by the drug is the so-called bromide acne, represented by papulo-pustular or tubercular lesions, occurring particularly on the face and the scalp, but also more or less generally over the body, yet even this *banale* type may develop into furuncular-like lesions and ulcers leaving scars. More rarely the eruption may be erythematous in character, and occur in either a diffuse form, and then especially on the lower extremities, or it simulates a roseola. Urticarial lesions have been observed, and it has even been possible to produce them by rubbing or irritating the surface. A maculo-papular eruption has also been seen, and it has led to the mistaken diagnosis of syphilis, while cases of nodular, furunculoid, anthracoid, and carbuncular lesions abound in the literature of the subject. Seguin has described, admirably, a peculiar elevated ulcer due to its long continued use, and Amidon has called attention to an "epithelial" ulcer observed by him. Veiel reported a verrucous or warty eruption, strictly resembling ordinary warts, and others have recorded bullous, squamous, and seborrhœic manifestations.

I find it rather difficult to include the cases reported in my paper among any of these, owing to their peculiar type, one evolved from an ordinary papulo-pustular lesion. Jacquet reported a case which, beginning as a bullous eruption, became fungating in character after rupture of the bullæ. Muller very recently has described one which presented frambœsia-like growths, together with superficial ulcerations and other lesions, but none that I know of showed the peculiarities in evolution of the lesions from a papulo-pustule to a fungating and crusting excresence. The exaggeration in character of Case I. was undoubtedly favored by the iodine compound given at first, and precisely similar eruptions have been seen by me resulting from iodide of

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potash. The type of eruption, however, cannot be ascribed to that fact alone, since Case II. developed the same lesions and yet had not received any iodine. In consequence I would regard these cases as representing a very unusual type, which may be described as a papulo-pustular fungoid and crusting bromide of potash eruption.

The production of cutaneous phenomena is not limited to any particular one of the compounds of bromine. Though bromide of potash usually seems to exert the strongest effect, yet the same results have been caused by the sodium or ammonium salt, by bromine vapor, and any and all of the combinations of the drug. Muller's case, referred to in my paper, was due to bromoform, a comparatively new bromine compound, and personally I have seen bromide acne arise after taking bromo-caffeine and hydrobromic acid in combination with quinia and with conium, an occurrence not mentioned in our text-books or in those treating of drug eruptions.

The diagnosis of the bromine eruptions is not always a facile one, particularly when the lesions are of an unusual type, and it has most frequently to be made by exclusion and by a careful investigation into the patient's history previous to the appearance of the cutaneous symptoms, and by an examination into the drug or drugs which have been taken. The acneic form may be mistaken for acne vulgaris, but its location on the hairy surfaces by preference, its wide distribution, and the absence of any comedones should suggest its drug origin. The macular form, owing to its coppery color, may easily be regarded as due to syphilis, but the absence of all concomitant symptoms accompanying that early syphilide should be sufficient to guard the patient against such an error. Still, it has been made, and even more serious mistakes have been recorded. The prognosis is always good. As a rule the lesions disappear after cessation of the drug. Not always, however, as once produced they may persist for months and years, even without any more bromide being taken. I have had in the last winter a number of cases of folliculitis of the face, which had begun a year or more before they were seen by me, and which had appeared after taking bromide of potash for some weeks or months. The lesions had not disappeared in these cases, but had continued appearing, even though none of the salt had been taken for months and months. These cases are, however, exceptions, the opposite being the rule.

In view of this rule there is little to be said in regard to the treatment of these eruptions. Cessation of the drug is the essential and only step to be taken, though when ulcerations or bullous or other

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severer lesions have occurred, local antisepsis should be observed, and they should receive such general care as any wound. All means should also be used to prevent scarring.

DISCUSSION.

DR. JACKSON: He believed this case belonged to the same class as the one reported by him the day before.

DR. HYDE: The custom of the association of having papers of the same sort read and discussed together was preferable to the method adopted this year of taking each separately.

DR. WHITE had noticed in several cases the irritative action of this kind of the iodide of iron. No one had so far mentioned anything about the peculiar eruption produced by bromidia. On several occasions he had seen eruptions upon the skin which he was satisfied were caused by either bromine or iodine; but to his surprise on enquiring whether any of the compounds of these had been administered he was informed in the negative. Whereas in the instances which he has especially in mind, he knew the persons to have been taking bromidia. In both cases a fine papular eruption, almost exclusively confined to the face and affecting each individual follicle, was produced. Rarely these small lesions went on to superlative types. He would like to hear if any other gentleman present ever saw such an eruption.

DR. FORDYCE remarked that bromidia also contained chloral.

DR. ALLEN complimented Dr. Elliot on the beauty of the pictures shown. He had nothing to add to what he had said in the discussion of the previous paper.

DR. HYDE: Apropos of Dr. White's statement, he had seen two cases of eruption produced by bromidia. The eruption was distinctly limited to the hands. Bromidia he believed is a proprietary preparation made in St. Louis, and contains chloral, bromide of potassium, cannabis indica, and hyoscyamus One of his patients was a physician traveling from the west who had taken the drug to induce sleep while on a train. The eruption was in the form of large circinate plaques, with a pruriginous aspect, and crimson shade. It was quite startling in its appearance. His next patient was a woman, and upon seeing this eruption he was so struck with the resemblance between it and that seen in the physician, that he enquired if she had been taking bromidia, and was answered in the affirmative.

DR. HARTZELL; Apropos of Dr. Hyde's eruption on the hands, Mr. Hutchison describes an eruption due to chloral, and has figured it in his archives of surgery. If bromidia contains chloral, it is likely that the chloral is the offending drug, and not the bromide of potassium.

DR. WHITE: He would add that both his cases were young women who came to him for treatment for acne.

DR. ELLIOT: He had nothing to say with reference to bromidia, but in his experience it did not matter what the bromide was combined with, it had the same effects. Bromide acne he had seen produced

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by hydrobromic acid, hydrobromate of quinine, and of conium, bromocaffein, etc. All patented compounds of bromine are capable of producing the eruption. Only last spring Muller reported fungating growths and gangrenous ulcers following the administration of bromoform, a drug used in Germany. He would not therefore be surprised if the eruptions spoken of by Drs. White and Hyde were caused by bromine. One point he wished to mention was the general impression that exists, that the bromide rash ceases a very short time after the stoppage of the drug. He had found the contrary to be true in a great many instances. He had known patients to suffer for six months after the stoppage of the drug, from an acneiform eruption with rosacea, or a papular erythematous eruption. Of course these cases are the exceptions, but he found them not infrequent exceptions.

Dr. Bulkley: He suggested that the difference in the rashes, described by Drs. Hyde and White as both following "bromidium," might be due to their being produced by a different ingredient of that compound. Dr. White's patients may have had the bromide rash, and Dr. Hyde's the chloral rash, or vice versa.

Dr. Elliot: He asked Dr. White what was the character or type of lesion seen by him in the cases referred to as following the administration of the iodide of iron. At a meeting last winter of the New York Dermatological Society, the speaker had enquired if any of the members had seen a rash following the iodide of iron, but no one seemed to have met any.

Dr. White: He did not say he had seen it very frequently, but he had seen it in several instances. As to the lesions, he should not distinguish them from any other form of bromide rashes.

Dr. Morrow: He wished to ask Dr. Elliot whether the lesions he mentioned as having persisted so long after the stoppage of the drug were of the same character as those which appeared while the patients were taking the drug, whether, in fact these acnes and papular erythemas about which he spoke, were typical bromide eruptions.

Dr. Elliot: The eruption which persisted was the same as that which had first come out.

Dr. Klotz wished to correct the statement made by Dr. Elliot that at a meeting of the New York Dermatological Society during last winter, when he had inquired if anybody had ever seen an eruption following the use of iodide of iron, no one had answered in the affirmative. The speaker had been present at the meeting, and had stated that he had indeed seen acne eruptions, although of a very mild character, following the administration of the syrup of the iodide of iron and of Blanchard's pills.

Dr. A. R. Robinson, of New York, took as his subject

STUDIES ON SOME CUTANEOUS DISEASES.

The first subject was that of lymphangioma circumscriptum, of which disease he showed colored drawings of three cases. The first case was that of a girl twelve years of age, who had the disease

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since infancy. The eruption was principally upon the right side of the trunk. An operation had been performed for a supposed tumor in that part when she was very young, and it was thought possible that the large scar had some relation to the eruption. The grouping and frog-spawn appearance of the vesicles were well shown. A limited number of the lesions were dark in color from the presence of blood. The second case was that of a female eight years of age. In this case the lesions covered the entire left scapula region, some also appearing upon the lower part of the neck and a few over the right scapula. The central part of the affected area showed a large bluish colored subcutaneous tumor evidently connected with the lymphatic system. The cutaneous lesions were much smaller than in the first case and showed but little tendency to grouping. The lesions have been continually increasing in number since first seen two years ago. No scar tissue present. The third case was in a female twenty-seven years of age. It was seated at the lower part of the left side of the neck and existed since birth. New lesions occasionally form, but the original area is not much larger than it was many years ago. Some of the lesions have the spawn-like appearance, and others are dark in color, and she states that at each menstrual period nearly all become dark. The author could corroborate this statement and showed two colored drawings taken at different periods as proof. A full report upon the anatomy of the disease will appear later. Dr. Robinson did not attempt to treat all of the cases. In one he used caustics, but as he had not seen her lately, he could not speak as to the result.

Dr. Hartzell: Did the lesions continue to spread?

Dr. Robinson: Yes, decidedly in two of the cases, especially in the neck case.

Dr. Hartzell: In a case reported by him, the patchy lesions seemed to move slowly over the shoulder, in other words the part first affected was soon free, while the patch traveled upwards.

POMPHOLYX.

Dr. Robinson then took up his next series of cases of the disease called by some dysidrosis, supposing it to be connected with the sweat glands, by others pompholyx, or cheiro-pompholyx, while others did not consider it at all a special disease, but a form of eczema. He wished to take up the relative correctness of these different names for the condition.

He thought the lesions bear no resemblance whatever to eczema. He first passed around the drawing of the hand, the history of which case is found in the work edited by Dr. Morrow. The lesions on the palms of the hands and soles of the feet always coming out

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simultaneously and in regular groups, the formation of vesicles and bullæ which show no tendency to rupture; their faculty of passing away in a few weeks, and the tendency to recurrence after unusual exertion, all contraindicate a diagnosis of eczema. The second case, drawings of which he passed around, was that of a little girl of about twelve years of age in whom the lesions also appeared on the palms and soles in a very marked manner. This also showed the same characteristics as the others, the grouping, the tendency of the vesicles and bullæ to run together, the contents at first being clear and afterwards more yellowish, and disappearing after a certain length of time, leaving no signs of dermatitis or eczematous conditions. He passed around a drawing of the lesions on the foot, which represented a very large variety, and he thought that a consideration of this picture alone ought to convince anyone that at least here we have not an eczematous condition. The contents of the vesicles were invariably alkaline. He wished to lay particular stress on the distinction between this disease and eczema, for the reason that he understood Kaposi of Vienna had within the last two or three years shown in his clinic certain cases of eczema, diagnosed as such by American students, and described them as the kind of cases which the American physicians were wont to call dysidrosis or pompholyx.

Relative to the propriety of the name dysidrosis, as implying a connection with the sweat glands, he had never seen anything in his microscopical examinations to warrant us in connecting them with these glands. The experience of all other observers who had worked upon this subject has been similar, none of them, as far as he knows, having found the lesions in any way connected with the sweat glands.

If this be true it follows of course that the name dysidrosis is a wrong one. The author then read the history of one of his cases which occurred in a medical student some two years ago. This case he remarked might cause some doubt in the diagnosis of this condition from eczema, but here he had made sections and found upon examination a condition very similar to that found in the other cases, the only difference being the smaller size of the vesicles and some separating of the prickle cells and the rete. There was no connection at all with the sweat glands. Dr. Robinson, in order to demonstrate the difference between the cases, also passed around to the members a plate illustrating a case of chronic eczema. He concluded by hoping that the colored drawings and the photographs of the clinical pictures, as well as the microscopical drawing of the pathological appearance, will satisfy them that the disease has nothing whatever to do with eczema, that it

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has no right to be called dysidrosis, and that a more correct name would be cheiro-pompholyx, or as he preferred to call it pompholyx.

Dr. Elliot thought there could be no question about dysidrosis or pompholyx being an entirely distinct affection from eczema. The speaker, however, wished to learn why Dr. Robinson called these lesions, when they occurred on the hands and soles, cheiro-pompholyx and having no connection with the sweat glands; whereas, when they occur on the face he calls them hydrocystoma, and connected with the sweat glands? He had seen a number of these cases originating from exposure to heat, in people of run down constitutions and severe nervous prostration. The eruption came out upon the palms of the hands, the sides of the fingers—deep seated lesions without any redness around them—resembling absolutely those sago grain lesions spoken of, and corresponding in every particular with the lesions of hydrocystoma of the face. He did not see, therefore, why in the case of the palms and soles they should not be connected with the sweat glands, while in the face they are.

Dr. Hartzell would like to know if there were any subjective sensations connected with these cases. So far as his observation went, pain was a distinct feature in contradistinction to the itching and burning so characteristic of eczema.

Dr. Bronson: He could testify as to one of these cases, that it was absolutely distinct from any form of eczema that he had ever seen. He had tested the reaction of the vesicular fluid and satisfied himself that it was alkaline, while that of the sweat of the same hand was acid.

Dr. Bulkley: He believed that there was undoubtedly a bullous eruption of the palms, which is purely a nervous affection, which he did not regard as a dysidrosis. At the same time he always recognized hydrocystoma of the face, and also certain cases which occurred in warm weather on the plams of the hands, etc., which, so far as clinical appearances go, appears to be a dysidrosis. On the other hand, he thought there were many cases of vesicular eczema of the palms which so closely resembled this condition that when aborted by treatment, he could understand, would be very difficult to distinguish from dysidrosis. He would therefore wish to put himself on record as believing in dysidrosis, and also in a bullous eruption more properly called "hydroa," and in an eczematous eruption resembling both of these.

Dr. Klotz: He had seen some cases, such as those described by Dr. Elliot, but none of them had such large bullæ as those seen in the pictures. These patients had no pain and very little itching. He did not feel disposed to lay too much stress upon the reaction of the contents of the vesicles, as there is some reason to believe that a fluid which at first was of an acid reaction may become alkaline after remaining for a certain length of time in the vesicle.

Dr. White wished to know if Dr. Robinson had been able to eliminate the action of local irritants in all these cases. Did the lesions in these cases come independently of any irritation whatever.

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Dr. Robinson, in reply to Dr. White, said that symmetrical eruptions on the palms and soles would not be likely to result from an irritant.

Dr. White: It seemed to him that, judging the condition by the photographs shown here, if we were to eliminate the bullous or confluent eruptions, or to take one or two of the smaller lesions, it would be impossible to diagnosticate these cases from vesicular eczema of the hands. However, he believed there were two affections of this nature of the hand, the first undoubtedly dysidrosis, the second eczema.

Dr. Shepherd: He thought the eruption of pompholyx was quite distinct from that of eczema. The first case seen was in Mr. Hutchison's clinic twenty years ago. It occurred in a stewardess who came from Australia. She never had the disease except when she came to London. He himself had seen two cases in medical students, caused by over-work and worry about examination times; one of these had it at the same period for three successive years. The speaker therefore thought pompholyx a disease entirely different both as to symptoms and pathology from eczema.

Dr. Hyde: He could confirm Dr. Shepherd's remarks. If experience had taught Dr. Hyde anything it had this: that pompholyx occurs in broken down nervous subjects, and that it has no relation whatever to eczema.

Dr. Zeisler: He wished to know why Dr. Robinson, having satisfied himself by microscopic examination that the disease had nothing to do with the sweat glands, persisted in calling it dysidrosis? Another point which he wished to enquire into, but he did not wish his question to be understood as implying any doubt as to the diagnosis, was how Dr. Robinson would distinguish between epidermolysis bullosa and the lesions shown in one of these pictures, where the large bullæ are seen to occur on the soles symmetrically. In epidermolysis bullosa it is known that mere exposure will be sufficient to produce these blebs; whereas, Dr. Robinson mentioned one of his patients was a fireman in whom mere exposure would bring on an attack. The speaker himself very frequently in summer got vesicles on his fingers; there was absolutely nothing eczematous about these, and he would like to know if this was an example of Dr. Robinson's disease. If it is, he thought the disease pretty common. He thought the seemingly irreconcilable differences between Dr. Robinson and other authorities on the distinction of pompholyx and eczema might be due to the fact that some observers make their diagnosis of eczema from the clinical features, whereas Dr. Robinson evidently made his from the etiology. If we begin to make etiological differences we shall have to tear up our uniform conception of eczema in many ways. At the same time he does not wish to be understood as disputing the independent character of Dr. Robinson's cases—he only wished to suggest that many dermatologists made their diagnosis of eczema solely from its clinical features.

Dr. Sherwell: He had seen quite a number of cases almost identical in appearance with the picture of the hand case passed around, and they had always occurred in broken down people.

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One case he now had was in a young man, a sexual misanthrope and melancholic. The bullæ were not as large as those seen in the foot case, as shown in these pictures. These diseases he had been accustomed to call dysidrosis, supposing, as they occurred on the fingers, they were connected with the sweat glands. On the other hand, the somewhat similar lesions seen on the faces of people forced to work over a hot fire, as cooks, etc., he had called hydrocystoma. Another point not brought out in the discussion was the existence of a gangrenous herpes which occurs in hysterical girls, appearing more particularly on the sides and tips of the fingers, these girls being otherwise fairly nourished. This last seems to be simply a neurotic disturbance, and looks as if it would come more properly under the head of pompholyx than of so-called hysterical gangrene.

Dr. Robinson: In reply to Dr. Elliot, he said he never saw any eruption upon the palms similar to hidrocystoma of the face. It was only inflammatory grouped lesions that should be called pompholyx. Besides the symptoms were different. In pompholyx there is an inflammatory lesion, some burning, and often a good deal of pain; whereas, in obstruction to sweat, as observed upon the face, there is no inflammation and no burning, or anything of the kind. If Dr. Elliot refers to these lesions he might say they would be a form of sudamina.

Dr. Elliot: The lesions he referred to were those described by Dr. Tilbury Fox and compared to sago grains. The description of Dr. Fox's, Dr. Robinson had some time ago started in to disprove. Dr. Robinson could not therefore be at a loss to understand his question, which was why he proposed calling these sago-grain lesions, occurring on the face, hydrocystoma, and connected with the sweat glands; but when occurring on the palms cheiro-pompholyx, and with no connection with the sweat glands. It was this seeming inconsistency he wished explained.

Dr. Robinson: Dr. Tilbury Fox made out a relationship to the sweat glands, and Crocker, working with him, held the same view. Their sections were afterwards carefully examined by Hogan and Thin, neither of whom could find any connection between the lesions and the sweat glands; and finally Crocker, in his last book, has given up the old view, and no longer calls the disease dysidrosis, but pompholyx.

Dr. Elliot: He insisted that Dr. Robinson had still not answered his question as to the identity of the lesions in hydrocystoma and those in pompholyx described as sago grains.

Dr. Robinson: The cases which Tilbury Fox called dysidrosis, the speaker called pompholyx. In reference to the similarity of the lesions between hidrocystoma and pompholyx, he could only repeat that if the lesions are inflammatory in character, grouped, symmetrical, not acuminate, confined to the palms or between the fingers and run a rather definite course, then they constituted the disease called dysidrosis by Fox, and which he proposed calling pompholyx. If they are not these lesions, then they are eczematous ones. The lesions of hydrocystoma of the face have acid contents; those of pompholyx always alkaline. In hydrocystoma he had never seen any signs of inflammation; in

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pompholyx, as seen by the drawings passed around, there is decided evidence of inflammation. Furthermore, in hydrocystoma the lesions disappear slowly in the course of a few weeks, and that is the end of the disease. In pompholyx you get a throwing off of the macerated cuticle, leaving a tender surface behind.

The statement of Hollopeau that hidrocystoma is only dysidrosis has not one particle of evidence for its support. He accepts the view that hidrocystoma is caused by a retention of sweat in the excretory sweat duct, and assumes that dysidrosis lesions arise in the same manner. As neither he nor any other writer has shown dysidrosis to be a non-inflammatory lesion, cystlike in character and composed of retained sweat limited by hyperplastic epithelium from the excretory duct within the corium or elsewhere, but always an inflammatory affection with serous transudation and vesicle formation in the epidermis; the statement is contrary to plain logic.

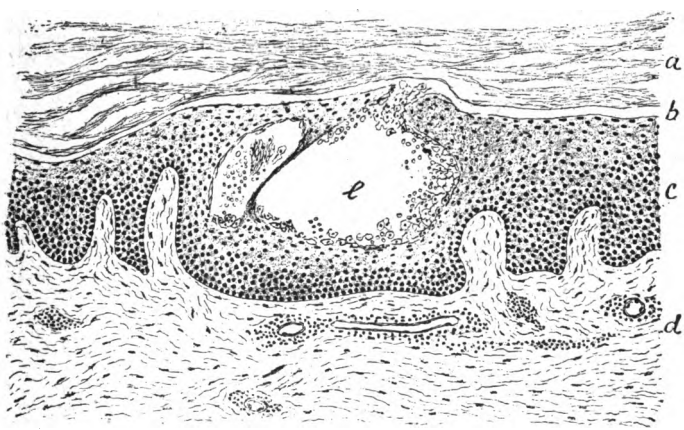

FIG. 1.—Section of lesion of pompholyx showing vesicle in rete and unconnection with sweat apparatus. The inflammatory changes in the corium in this section were slight.

The accompanying drawing on the following page prove my position on the question.

DR. WHITE: He wanted to know whether Dr. Robinson considered these small lesions on the palms as inflammatory or non-inflammatory, or was he to understand that the only difference between the vesicles in the two diseases eczema and pompholyx was that the latter does not rupture, and is more or less pointed.

DR. ROBINSON: You may get very similar lesions in eczema, but they will not be grouped lesions, be symmetrical, have a duration of say about two weeks and then disappear, leaving some slight reddening of the surface behind. He believed that if one wanted to take the clinical characters of eruptions the pathologico anatomical course should be noted to arrive at a safe diagnosis for a certain length of time.

DR. ZEISLER: He thought Dr. Robinson's contention that the

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vesicles in pompholyx do not rupture as early as those of eczema, might be due to their situation. Vesicles on the palm are hard to rupture. If Dr. Robinson was not already aware of the fact, he might inform him that his picture with the large bullæ is identical

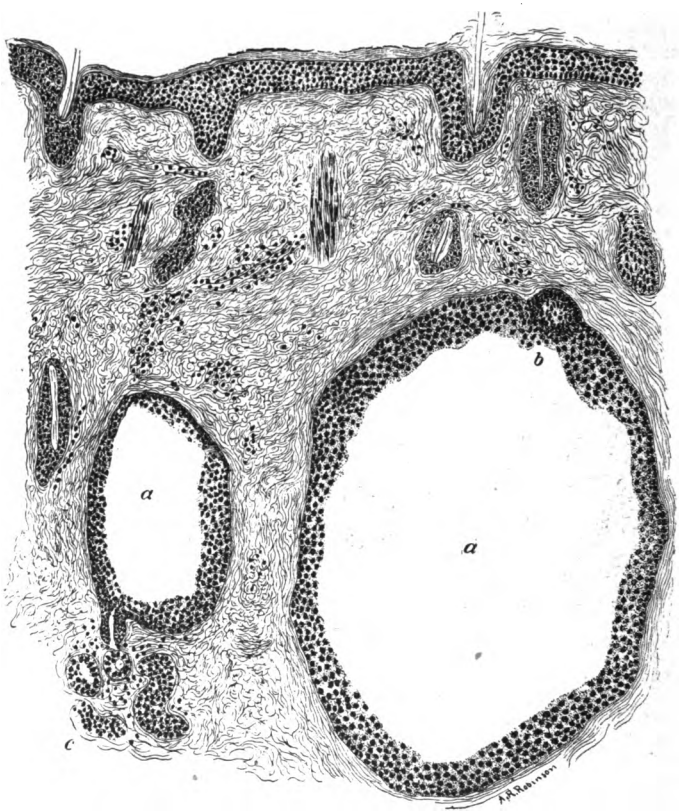

FIG 2.—Section of hidrocystoma lesions showing *a* large and small cyst from dilatations of excretory sweat duct and hyperplasma of lining epithelum; *b*, excretory duct at point of obstruction; *c*, coil of sweat gland.

with the disease described by Kobner and others as epidermolysis bullosa.

DR. ELLIOT: Goldscheider was prior to Kobner in the description of epidermolysis bullosa. The cases were characterized by being hereditary and congenital, though both Joseph and himself had reported cases which were primary and not hereditary. Relative to a distinction between eczema and pompholyx, he would say that the secretions of the former stiffen linen, those of the latter do not.

DR. KLOTZ: He wanted to know what was the appearance after

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cutting open of the large bullæ, and if it differed from that in cases of eczema, which he knew well enough.

DR. WHITE: If the fluid here does not stiffen linen it cannot be albumen, and if not albuminous what is its nature?

DR. ROBINSON: There are special changes in the prickle layer that make special changes in the contents. The cases shown to-night are exactly similar to those originally described by Mr. Hutchison as examples of dysidrosis, or cheiro-pompholyx. What he wished to show was that the disease was not an eczema in the ordinary sense of the term, and further that this eruption has nothing to do with the sweat glands, and has never been shown to have any connection.

DR. HARTZELL: Is there a disease called dysidrosis of the palm and another disease called pompholyx, or are this cheiro-pompholyx and Tilbury Fox's dysidrosis the same disease?

DR. ROBINSON said he did not wish to detain the members, so would be as brief as possible. He had two more cases which he intended to bring before them. One was a case of lichen tropicus, or prickly heat. Unna states in his last work that this is not an inflammatory affection at all, but simply a retention of sweat in the rete. He would simply show a colored photograph to get the opinion of the members as to whether the lesions could not have been formed independently of the sweat duct.

PRICKLY HEAT.

That the lesions are the result of an inflammatory process, must be the opinion of every one who observes these cases. Although I described the microscopical characters of the lesions more than ten years

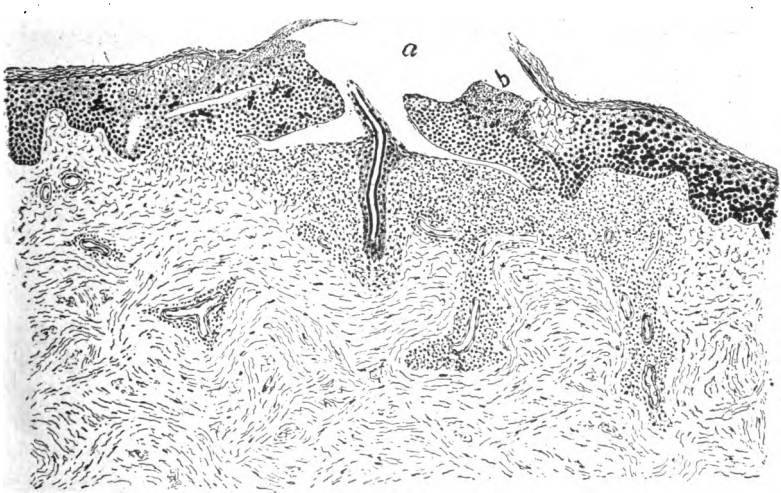

FIG. 3.—LESION OF LICHEN TROPICUS; *a*, seat of vesicle; *b*, degeneratio rete. The inflammatory cell collection is very abundant in the corium. The sweat duct passes through the vesicle and some of the contents are no doubt sweat.

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ago from a study of lesions removed from several persons, Unna gives the credit to Politzer, who has lately written upon the subject. Unna states that no inflammatory symptoms are present in this eruption, thus differing from miliaria rubra. Politzer describes prickly heat as an acute erythematous affection, due to obstruction of the sweat ducts, in the lower layers of the stratum corneum. He found cysts in the rete, "the contents of which were wholly fluid, or cellular elements may be present in considerable numbers." Some of his drawings correspond exactly with drawings in Cornil's and Ranvier's Pathological Anatomy, written many years ago. In my sections the lesions were of inflammatory origin, and the contents consisted of sweat, serum fibrine, round cells, etc., in varying proportions and situated not within, but in the immediate neighborhood of the excretory duct lying in the epidermis and upper part of the corium.

The accompanying drawing will serve to show the condition in one of the lesions. As I will write a full paper upon the subject at an early date, I will not further discuss the question, desiring only to reiterate my position on this subject, viz.: that "prickly heat" lesions are the result of an inflammatory process around an excretory sweat duct, and not a lesion formed simply by retained sweat.

HIDROADENITIS PARENCHYMATOSA TOXICA.

Dr. Robinson here read a report of another case of inflammation of the sweat glands. The diagnosis was degeneration of the coil portion of the sweat glands. He made sections of the skin in this case, and while the skin proper was normal, marked degeneration of the parenchymatous portion of the sweat glands exactly similar to that seen in the kidney existed. He handed around a sketch of the changes in the coil and also of the excretory duct showing three albuminous casts in the latter. Albuminous and granular matters were observed in the coil as well as the excretory duct. The changes in the rete giving rise to the vesicles could be seen well in one photograph, a large open space in the corneous layer, which at one time evidently contained albuminous material. It is curious that there was not a single vesicle formed. Perhaps one might find twenty or thirty of these spaces; that accounts for the small bullous character of the lesion. This differed from any case he had observed before on the subject. In quite a number of infectious diseases, and in such diseases as phosphorous poisoning, diabetes, etc., conditions of the gland somewhat similar to these have been observed. If this be true, it would seem that the sweat glands were more important than we thought. In the cases of bromine and iodine rashes it might be well to study the con-

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ditions of these glands, as he thought it likely they might be found to be the seat of the earliest stages of these lesions. The casts shown lying in the excretory duct in the sketch passed around he considered unique; some albuminous appearing fluids had already been noticed in the sweat glands, but never anything like this.

H. M. B., age 19 years; complexion dark; figure tall and well-developed. Was always healthy and of rugged constitution. He spent a great deal of time in the gymnasium and during summer months in and about boats and salt water. He was an expert and

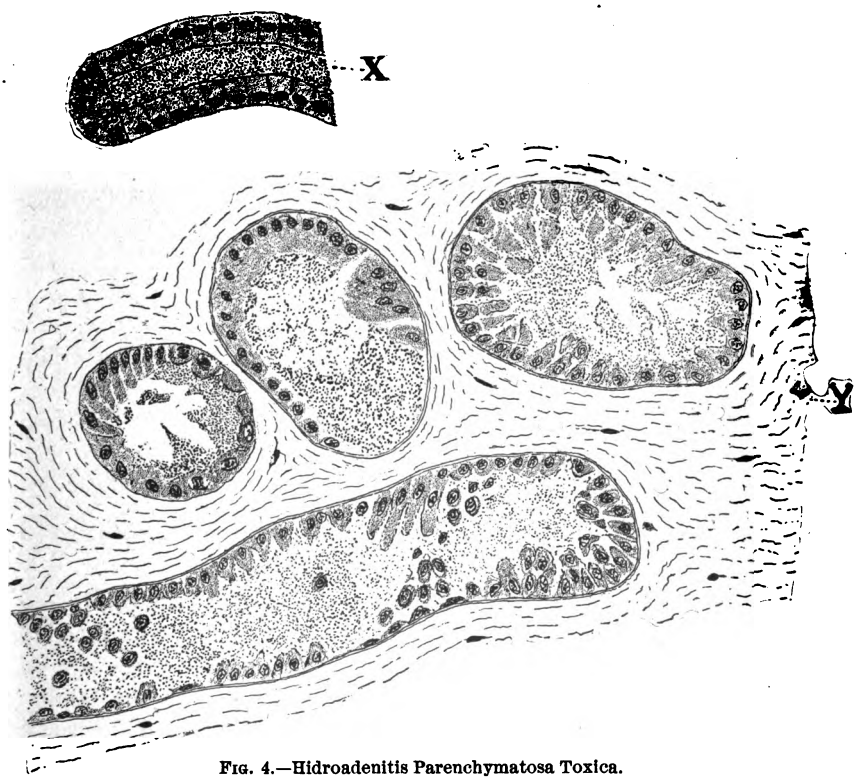

FIG. 4.—Hidroadenitis Parenchymatosa Toxica.

powerful swimmer. Had typhoid fever of a mild type when 8 years of age. Has always had very profuse sweating of the palms, and, in fact, over the whole body. Had an eczema on the back of the hands five years ago, which disappeared after using some ointment. Has always been considered to be a "nervous" and "fussy" person, and have noticed that he was more "fussy" than usual of late, that is, he

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was very irritable. The winter of 1877 and 1878 was spent in study, and about September 15th, 1877, he weighed 155 pounds. On December 24 he weighed 131 pounds, showing a loss of twenty-four pounds in three months prior to and during the early stage of his cutaneous disease, and was not feeling well for two or three weeks before the disease appeared upon the skin. He became thin and had a pale color. On November 28th had a fever of unknown causation, with headache, a dizzy feeling, pulse 120–130, temperature 102°, for which he took a large dose of epsom salts and twenty grains of quinine, and next day felt better, but was weak for a few days. On December 15th the palms of the hands became mottled in red and white blotches, most of which were of a circular form, but did not appear at that time to coalesce. On December 21st a "blister" first appeared, and on the 24th he noticed them particularly, having used ammonia in

Fig. 5.—Hidroadenitis Parenchymatosa Toxica showing albuminous casts in excretory duct in upper part by corium.

work he was doing, some of which got on the left thumb, producing a peculiarly bleached appearance in the lesion. With the mottled condition the hands felt slightly heated and puffy, pitting slightly on pressure. Slight pains in the right illiac region and in the lumbar region were felt about December 24th to 28th, for which he used a belladonna plaster, thinking it was muscular rheumatism. The eruption was confined to the hands, the feet being free.

The first lesion was situated upon the skin of the last joint, and gradually spreading upon the fingers traveled over the palms, the last bullæ appearing upon the base of the hypothenar eminence. The lesions appeared first upon the left hand and disappeared last upon the right, all being gone and the skin perfectly normal the end of January.

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The eruption consisted of vesicles and later small bullæ, and the contents were clear in color and albuminous in character. The lesions were somewhat grouped, never became pustular and disappeared without any signs of an eczematous nature.

DR. ELLIOT: From the description given, he could not form any idea as to the nature of the case, and he consequently was unable to criticise it.

DR. BULKLEY: He had hoped on hearing the description given of the disease exhibiting bullæ, and that of the sweat glands, that we were at last to get some light upon the question of dysidrosis and its connection or non-connection with these glands, but he was thus far disappointed.

DR. SHERWELL: He desired to know in view of the vicarious capability for action in the kidney whether the urine had been examined in this case to ascertain if any relationship existed between the kidneys and the pathological condition in the sweat glands.

DR. ROBINSON: The urine had not been examined. In reply to the criticism, he simply wished to say that he had given the history of a case, shown the characteristic lesions as they appeared upon the hands, and also the microscopical characters.

He described, in other words, an eruption, which was not eczema, not pompholyx, not dysidrosis, not sudamina, but is a parenchymatous inflammation of the coil in the sweat glands and the lesions in the skin, which consisted of vesicles or small bullæ, were caused by an exudation passing along the sweat glands into the epidermis and separating the rete, forming vesicles or bullæ.

DR. CHARLES W. ALLEN, of New York, read his paper on

THE TREATMENT OF ERYSIPELAS BASED UPON A SECOND SERIES OF FIFTY CASES.

GENTLEMEN: In the preparation of the following brief paper I have been influenced:

1. By the belief that originating, as erysipelas so often does in some skin affection or lesion of the integument, and being in itself so preeminently a skin disease, its study should receive greater consideration from dermatologists than has often been accorded it in the past.

2. By the fact that certain suggestions as to treatment, made in a paper read by me at our Fifteenth Annual Meeting, have in a further test given results which warrant their being reported.

3. By the statement from no less an authority than one of our honorary members, Professor Kaposi (English translation of last edition of his "Handbook," p. 289), that the plan of surrounding the parts with adhesive plaster has not acted as a preventive of the spread of erysipelas.

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In defense of my first reason I may state that in Mr. Crocker's excellent "Handbook" of recent date, the subject of erysipelas is omitted. Jamieson likewise excludes it from his work on skin diseases. Other authors show the same inclination to ignore this disease in their dermatological writings. It was only recently, and on my motion, that the erysipelas wards of the New York City Hospital were made a part of the dermatological service—a change which I feel sure has proven advantageous to all concerned. It seems to me that if there is any one disease which should be in every way disconnected from the surgeon and his work, it is erysipelas; and this is equally true of the gynecologist and obstetrician. There is still much to be learned about erysipelas in its migrating and erratic forms, and as a recurrent affection in such dermatological conditions as are presented by elephantiasis, etc. It should also receive further study as a causative agent in the production of pseudo-elephantiasis, and it is probable that much could still be found out about the relation which true erysipelas bears to certain attacks of pseudo-erysipelas observed after vaccination. In the realm of diagnosis as well, the specialist for the skin should find an interest and a field of usefulness, for it must be the experience of all that numerous affections of inflammatory nature—dermatitis, poison ivy, and drug eruptions, certain erythemas, and even occasional rarer forms of eczema, have at times been wrongly diagnosticated as erysipelas by the unwary.

The etiological relationship of erysipelas to dermatoses and to certain lesions of the skin is likewise of interest, and I have been impressed with the frequency with which some cutaneous *porte d'entrée* for the infection can be discovered if sufficient attention is given to the examination. Thus in 100 cases, which include 50 reported to this Association four years ago, just one-half were clearly traceable to preexisting skin lesion. Of these, vaccination furnished 12 instances; varicella, 5; ulcer, 5; impetigo, 4; ulceration of the skin following circumcision, 4; syphilis of the scalp, 3; ecthyma, 2; ulcerating nævus, 2; fissure, 2; dermic abscess, 2; elephantiasis, 2; pediculosis, 1; pustular eruption upon the legs, 1; excoriation, 1; eczema, 1; dermatitis from kerosene, 1; dermatitis calorica, 1; rosacea, 1; total, 50.

Of the remaining 50 cases, in 29 the origin is either not accounted for or is not put down in the notes. Throat disease is made accountable for 9 instances; trauma has 5 to its credit; catarrh, 3; lachrymal fistula, 2; salivation, 1; and ulcerating tooth, 1.

The frequency with which soreness of the throat precedes the earliest manifestations of erysipelas upon the skin surface, has led me to

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look upon the former region, and especially that of the tonsil, as one furnishing in many instances the conditions necessary for the entrance of streptococci. I have already stated my belief that in the proximity of the faucial and nasal mucous membranes, and their liability to present denuded, excoriated, or granulating surfaces, and especially in the peculiar anatomical conformation of the tonsil itself, is to be found the explanation of the relatively great frequency of erysipelas of the face.

This frequency is indicated in the following table, which, so far as the facial cases are concerned, agrees closely with the statistics given by various authors, as well as with my own, made up from a large number of cases. Of these fifty cases now to be considered:

25	involved	the	face (fifty per cent.).
12	"	"	arm.
8	"	"	leg.
3	"	"	genitals.
1	"	"	hand.
1	"	"	scalp.

The treatment of erysipelas has been an ever-changing one, but in recent years it must be admitted that the modifications of the methods have been influenced by Fehleisen's discovery. The reason that so many different drugs have had their warm advocates at various times, lies partly in the fact that scarcely any one remedy had been found which exerted a decided influence upon the course of the affection, and partly in the self-limited nature of the disease, which, in most instances, tends to spontaneous resolution in about a fortnight, when uncomplicated, and occurring in middle life.

The claim of any plan of management must therefore be based upon its powers to jugulate the process, or to confine it to a period of a few days. The statement sometimes made by authors that there is no treatment which arrests the march of erysipelas will not stand at the present day, nor can I accept the statement of those who would include the plan of adhesive bandaging among the useless devices for checking its spread.

The plan of treatment which I have for the most part employed during the past few years, aims to accomplish its purpose, first by preventing extension of the disease process into new territory; and then to restore the skin to its normal state by making compression, excluding the atmospheric oxygen, and exerting an antiseptic and reducing action upon the already inflamed and infiltrated area. While perfectly well aware that there is nothing new either in the theory or in

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the employment of the particular agents for the practical accomplishment of the desired end, still I have been forced to the belief that in the following procedure, which I have termed the "combined method," we possess an effectual means of preventing the extensive invasion of new territory, as well as of cutting short the existing process in a very large proportion of cases.

The plan consists simply in the application of bands of rubber adhesive plaster, as advocated by Wölfler, in such a way as to entirely shut in the region implicated, and then in covering over the whole of the enclosed area, including the apparently healthy skin, with ichthyol in collodion varying in strength from ten to fifty per cent. The bands, one inch wide for a child and one and a half inch for an adult, are applied in such a manner about the limb, trunk, or head, that a decided pressure is exerted upon the skin against the underlying bony or softer parts. The bands are applied at a distance of from one to three inches from the visible margin of the advancing patch, varying with the region, rapidity of the advance, and degree of intensity of the inflammation. The theory of action is that the lymphatic vessels and channels, in which the streptococci are believed to circulate, are compressed in such a way as to prevent the penetration of the latter to the parts beyond. Upon a limb I apply the bands, if possible, both above and below the patch of erysipelas; upon the trunk I surround the part, laying the bands in a direction where the best points for counter-pressure are to be found; upon the head I apply them tightly about the forehead, and, if required, across the vertex or any portion of the scalp after a swath of hair has been cut close for its reception.

In my former paper I advised the application of the method to head cases, and my subsequent experience has shown that it acts here quite as well as elsewhere. A lotion or ointment of ichthyol, or possibly the substitution of some other local dressing is here advisable, though, upon the face, I have found little opposition to the disfiguring nature of the paint. Ichthyol has been experimentally shown to possess decided antibacterial properties, and to be fatal to erysipelas cocci in cultures even in weak solution. Its action as a reducing agent is also known. When these qualities are combined with those which collodion furnishes for making compression and excluding air from a part, we possess a local dressing which is not alone theoretically admirable, but one which has been practically demonstrated to possess decided merit.

The results of treatment by the combination of the adhesive strips and the ichthyol varnish, so applied as to include the still healthy-appearing skin, making one continuous occlusive dressing, have been

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very satisfactory. My notes were not made at the time with the view of incorporating them in a paper, and are fragmentary and lacking in detail. It is shown by them, however, that at least 30 cases were treated by the restricting band; 22 of them in conjunction with the ichthyol varnish; 2 with solutions of ichthyol; 2 with aristol in collodion; and in four the form of local dressing is not recorded.

In 11 instances ichthyol varnish was alone applied without the band, or at least no mention is made of the latter; 6 received ichthyol ointment or solution, and in the three others the treatment employed is not in evidence.

In the 30 cases treated by the combined method, 14 are recorded as showing no extension beyond the barriers. In 9 the result is not put down. In 3 extension of the erysipelas beyond the band is noted. In 3 the result is marked "recovery," 1 of them being entered as "prompt," 1 as "well in three days," and 1 "in a few days." In 1 the patch ceased spreading before the margin reached the band. In 1 a recurrence is noted after some days, and this in turn was recovered from in eight days. In 2 of the 11 cases treated without the band no spreading occurred beyond the limits of the ichthyol varnish.

The dates do not show, as a rule, just how long the cases were treated before being considered well, but many were seen only a few times, and several were practically well after one application of the ichthyol. It was frequently observed that the painful sensations subsided, the fever fell, and general improvement in the patient's condition set in promptly after the dressings had been applied. In scarcely any of the cases was internal treatment employed, and then drugs were given only symptomatically. Alcoholic stimulation was, however, usually advised. With few exceptions the cases were seen quite early in the course of the disease, usually upon the first day. They were mostly treated at their homes, but some, especially those following vaccination in children at the dispensary. Under such conditions I think the results of treatment can be better judged than in hospital cases, which, as a rule, enter the wards only after the disease has existed for some time, and probably without any preceding treatment to speak of.

Local foci of pus, or sources of purulent secretion, must always be sought out and, by the use of peroxide of hydrogen or other agent, eliminated so far as possible from the problem while the attempts are being made to check the advance. Open surfaces must be included in the antiseptic dressings. In a number of instances where the erysipelas originated in skin lesions, the happiest results have followed their inclusion in the ichthyol applied. This benefit was especially noticeable

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in the vaccination ulcer. An important point, which has already been pointed out, is the necessity of leaving the plaster bands a long time *in situ*, and in applying a second, when the erysipelas has passed the first, and of not removing the first at once. There seems often to be an intensity of the inflammation either at the margin of the band or sometimes beneath it, and bullæ are often large in this situation. After recovery, too, there should be no haste in removing the dressings.

The advantages of this treatment over the Kraske-Riedel scarification method, which often necessitates the use of an anæsthetic, rises to the importance of a surgical operation, and, after all, frequently fails of its object, need scarcely be dwelt upon.

Even if the process most often oversteps the bounds, as many authors claim, this is no argument against the method; for even if a much smaller proportion are cut short than is indicated by my results, there is no plan which offers as much. In cases originating in patients the subjects of grave disorder, and where the lesions occur in remote regions simultaneously, or where rapid migration is observed, it is probable that the infection is more deeply seated, perhaps in the blood, and in such cases our method must of necessity fail. In the present series I have applied it to none such.

DISCUSSION.

Dr Shepherd had seen a good many cases of erysipelas, but he could not say that he had ever found any remedy which would resist its progress. It is a self-limited disease.

Dr. Fordyce: He had seen better results following the use of ichthyol than from any other local application.

Dr. Zeisler: He could indorse that portion of Dr. Allen's paper where he spoke highly of the local treatment. One does not see much erysipelas in the practice of dermatology, but in 1892 he saw a good deal of it in Chicago, where in Cook County Hospital they had a special ward for such cases. The treatment was chiefly in the hands of a male nurse, who was very well trained, and up to that time had used boric acid solution with fair success. Experiments with ichthyol were made with the result that it is now the routine treatment at that hospital; so he presumes they must be pretty well satisfied with its action.

Dr. White: After listening to the reader's paper he could not see that anything was gained by the use of the rubber bandage. If the bandage upon the forehead is between an inch and an inch and a half in width that would be a great amount of extension, after you had begun, what he considered the best treatment. He invariably used one treatment and he expected almost every case to be controlled within three days, often within forty-eight hours. This consists in a half drachm of carbolic acid to four ounces each of water and alcohol.

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Under that treatment, if he treated one part of the face with it, and another part with an ichthyol ointment, the former method invariably cut short the disease in its portion quicker than the ichthyol.

Dr. Robinson: He preferred black wash, and the old sugar of lead and opium lotion to constrict the lymph spaces and form an obstruction to the passage of the streptococci. Internally the tincture of iron in large doses is indicated as shown by experience.

Dr. Bronson: He recommended ichthyol, also good strong solutions (ʒ i to ℥ i) of resorcin in cases of superficial erysipelas. It leaves the face in a somewhat unsightly condition, but this passes off.

Dr. Elliot: He treated a large proportion of his cases with a 50 per cent. aqueous solution of ichthyol, which always arrested the disease in two or three days. A 10 per cent. ointment of the lactate of lead, and even better than that, a 10 per cent. solution of the ter-chloride of phenol, he had found very effective. When under this treatment cases recover often in a very few days, and it seemed to him that one must attribute their cure to the effect of the drug.

Dr. Allen said in reply to Dr. Shepherd that he did not think we could speak of erysipelas being a strictly self-limited disease, unless we looked upon death as one of the limits, since there is a mortality rate ranging from 2 to 30 per cent., according to the age of the patients, the form which the disease takes and the place in which they are treated. A high death rate is given in erysipelas following vaccination in the Vienna Infant Hospital and similar institutions.

He had himself treated one case following vaccination in which death resulted, and had lost two cases which developed after ritual circumcision. When cases similar in onset to these occur and the band and ichthyol treatment is employed and the process stops abruptly, we have a limitation which means something.

He would not like to treat erysipelas on the theory that it was a self-limited disease, and make no attempt to check it. So far as his experience went he had found this combined method better than any other. Cases treated without the band have not done so well, and the process has not stopped so promptly.

Morning Session, Held Sept. 19th, 1895.

Dr. M. B. Hartzell, of Philadelphia, read a paper entitled

A UNIQUE CASE OF AGMINATE FOLLICULITIS OF PARASITIC ORIGIN.

W. E. J., thirty-two years of age, a repairer of signals and switches in the employ of a railway company, was referred to me in November, 1894, for advice concerning a cutaneous affection situated upon the left leg. Upon examination the disease was found to extend over the greater part of the leg, and to consist of two apparently different kinds of lesions, although when examined closely these were found to be but different stages of the same morbid process. Immediately above the internal malleolus was a palm-sized patch, irregularly oval in outline, elevated considerably above the surrounding healthy parts, and cov-

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ered with a scanty, yellowish gray, soft crust, which could be easily removed. Beneath this crust was a bright-red, uneven, coarsely granular surface containing numerous small openings from which slight pressure caused a scanty sero-purulent fluid to exude. From the appearance of the patch it was evident that it had been formed by the coalescence of several smaller ones through the peripheral extension of the latter. Scattered about over the inner and anterior aspect of the leg, from the ankle to the knee, were a number of smaller plaques of similar appearance, circular in shape, and varying in size from a dime to a silver dollar (see Fig. 1). Close examination of these patches showed that they were made up of swollen and inflamed hair-follicles, from the most of which the hairs had fallen, although a considerable number still remained in position. In addition to these plaques there were numerous pinhead to pea-sized pustules, arranged in groups and singly, each pierced by a hair, scattered irregularly over the entire leg, but most abundant upon the anterior surface. The disease was attended by paroxysms of intense itching, and the leg was at times so painful that walking was difficult. On this account the patient was compelled to give up his work for a considerable time. The history was as follows: Some six weeks before coming under my observation a trifling injury had been received just above the internal malleolus through falling upon a sharp stone; this apparently healed within a few days. A week or ten days later a single pustule made its appearance at the site of the injury, and this was soon followed by others in its immediate neighborhood. A small patch was thus formed which grew rapidly by the addition of new pustules at the margin until it reached the dimensions already indicated. The primary lesions of the eruption were always pustular, but as soon as a sufficient number of follicles were invaded to form a patch the size of a dime the pustules disappeared, except at the margin, where new ones were constantly appearing. Notwithstanding various modes of treatment, the disease had continued to invade new territory; new pustules were constantly making their appearance on various parts of the leg, which frequently became the center of new plaques, and the older patches steadily grew larger through the addition of new lesions at their edges. After a time the large plaque just above the malleolus, where the disease first made its appearance, began to undergo involution in the center while extending at the margin, so that at the end of ten days or two weeks it had assumed the shape of a broad ring four or five inches in diameter. Still later in the course of the disease the eruption took the shape of gyrate bands an inch or more in width, through this process of marginal extension and central involution of

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the patches. Many discrete pustules appeared from time to time which lasted but a few days and then disappeared. At various times furuncles formed, which in some instances grew to considerable size and were extremely painful, one over the tendo Achillis being unusually large and troublesome. A little time after the largest patch had been

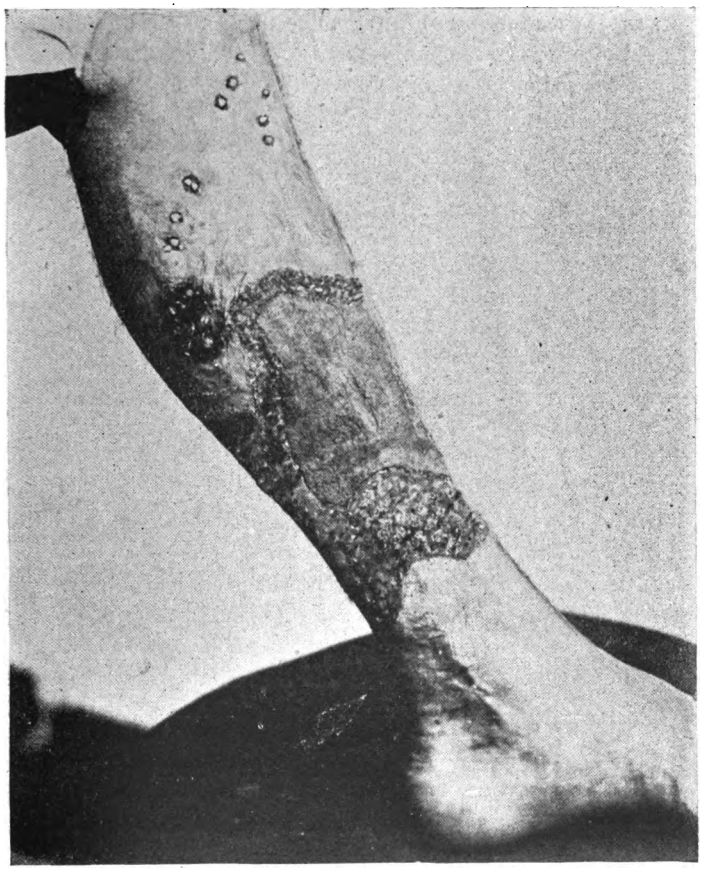

FIG. 1 —Agminate folliculitis.

transformed into a ring, as has already been described, the follicles in the center of this ring became inflamed anew, and shortly there was a dollar-sized disk surrounded by a ring, as is sometimes seen in tinea circinata. It was evident that the seat of the disease was in the hair-follicles, and, from the mode of its extension, it seemed likely to be due to some infection. With the view of learning, if possible, some-

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thing of the real nature of the malady, portions of the diseased skin were excised, care being taken to include as nearly as possible all stages of the disease. The pieces excised were fixed in alcohol, imbedded in paraffin, and cut and mounted, for the most part, serially. The sections were stained with hæmatoxylon and eosin, and with the triple stain known as the Biondi-Heidenhain mixture, this last giving by far the most satisfactory results. The portions examined included parts of the larger agminate patches and several discrete pustules. The latter, being the primary lesions, will be described first. Immediately surrounding the hair in the upper part of the epidermis was a small cavity filled with pus-cells and epithelium in various stages of degeneration, together with a few round spores and fragments of mycelial threads. These fungous elements were only found in the abscess cavity, none of the sections of the pustules showing spores or mycelium elsewhere. The substance of the hairs was apparently not invaded, since in none of the sections which passed through the hair-shaft were either spores or mycelium seen. Sections stained with gentian violet in the usual manner showed considerable numbers of staphylococci in the cavity of the pustules and in the upper portion of the rete. Those parts of the corium immediately beneath the pustules presented decided evidences of inflammation, there being a moderate amount of round-celled infiltration in the papillary layer. Upon the whole, however, the amount of tissue change was slight, and limited to the more superficial portions of the skin.

In sections made from the agminate patches the pathological alterations were much more marked. In the superficial parts of the epidermis were many small cavities containing pus, such as have been already described when considering the pathological changes associated with the pustular lesions. The rete was greatly thickened, being at least four or five times thicker than normal; the papillæ were much enlarged both in length and breadth, and contained large numbers of lymphoid cells which were so abundant as to obscure the line of demarcation between the rete and the papillary layer. The greatest changes, however, were in and around the follicles. Where the sections passed through these they were seen to be greatly enlarged and distorted; they presented the appearance of large angular cavities filled with round cells in the midst of which were a few round and oval spores and an abundance of mycelial threads (Fig. 2). In many sections the mass of cells and mycelium extended some distance into the corium, having forced its way through the bottom of the follicle. Of the fungous elements the mycelia were by far the most abundant, the spores being not only relatively but absolutely few in number. The

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former consisted of long, curved, and branching threads with joints of moderate length, and smooth, straight threads having neither branches nor joints. The spores were, for the most part, scattered about through the mass of lymphoid cells and epithelial *débris* which filled the follicle. In some sections there were grapelike clusters of spores attached to the mycelium, a form of sporulation sometimes observed in cultures of the trichophyton, but rarely seen in the ordinary tineas.

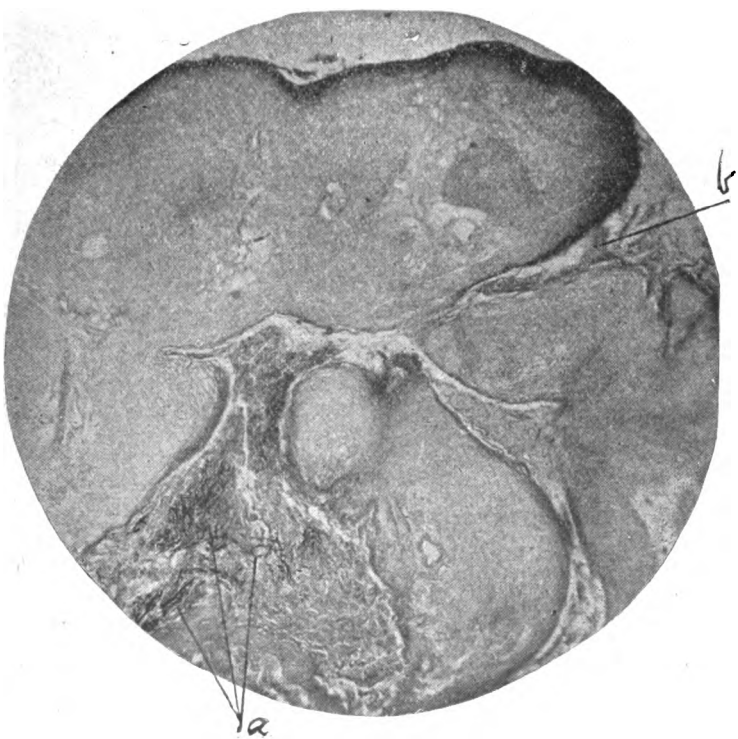

FIG. 2.—Section of follicle showing fungus contained in it. *a*, mycelium; *b*, mouth of follicle $\frac{8}{10}$ in. objective. No ocular.

The fungus presented all the characters of the trichophyton, although the individual elements were considerably larger than those seen in tinea circinata and tinea tonsurans (Fig. 3).

Before the ætiology of the disease had been definitely determined various remedies had been employed with but little or no beneficial effect. Previous to coming under my care the treatment had consisted chiefly in the application of antiseptics, such as mercuric bichlo-

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ride, hydrogen peroxide, iodoform, but these only aggravated the existing inflammation and caused great pain, without in any way retarding the progress of the malady. Lotions of resorcin, ten to fifteen grains to the ounce, gave marked relief from the pain of which the patient always complained, but failed likewise to prevent the spread of the eruption. When the presence of the trichophyton was discov-

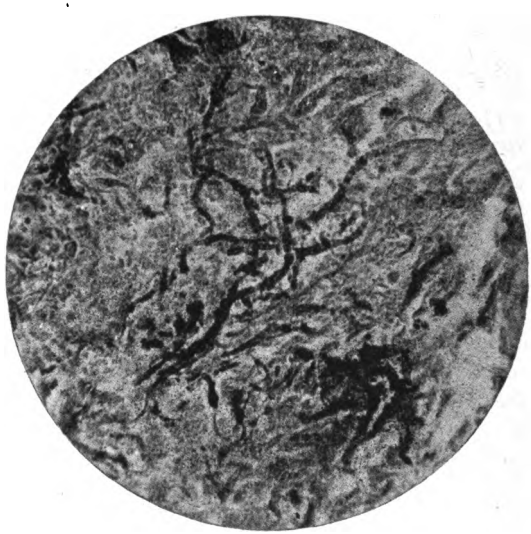

FIG. 3.—Mycelium in follicle. Zeiss, D. D. No ocular.

ered an ointment of sulphur—at first thirty grains to the ounce, later one drachm—was ordered, and improvement began at once, at first slowly and then more rapidly. This improvement was steadily maintained until, at the time of writing, entire recovery has taken place. The duration of the disease was in all about ten months, during five of which the patient was unable to attend to the duties of his position because of his inability to stand or walk any length of time; and at least two-thirds of the surface of the leg was invaded by the parasite. Notwithstanding the violence of the inflammation, no scarring resulted and no permanent loss of hair. Careful inquiry was made to discover, if possible, the source of the contagion, but without result. In his recent elaborate work upon human trichophytosis Sabouraud asserts that the suppurative forms of the disease are due to that variety of the trichophyton found upon the horse; and on this account a careful search was instituted to learn whether this source of infection was probable in this particular case. The patient was positive, however, that he

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had not been in contact with horses for many months previous to the appearance of the disease. There were neither cats nor dogs in the patient's household which might have been a source of infection, nor did any other member of the family have any cutaneous malady.

Outside of French dermatological literature but little is to be found concerning agminate folliculitis. Quinquand, Leloir, and Pallier have reported cases and made them the subject of more or less exhaustive investigation, Leloir in particular having studied the pathology and pathological anatomy.* This author, basing his opinion upon bacteriological examination, places the malady among those due to the pus-forming micro-organisms, and states explicitly that not the least trace of the trichophyton was to be found in the cases examined by him. Clinically, however, the cases reported by these authors resembled to a considerable degree the one the subject of this paper, although none of them occurred in the same situation, occupied so large an area, nor ran so prolonged a course attended by such severe symptoms. But the most striking agreement is to be found in the pathological anatomy as described and figured by Leloir, the seat and character of the pathological alterations being precisely the same. In view of the very considerable clinical resemblances, and the exact correspondence of the pathological histology, I cannot but express the suspicion which I entertain, that the agminate folliculitis of the French authors is most probably a deep trichophytosis such as has been described in this paper, the fungus having been overlooked through lack of a proper selective stain. In this connection I wish to call attention to the excellent service rendered by the triple staining fluid know as the Biondi-Heidenhain stain in the examination of sections for the trichophyton. This reagent exercises a selective staining action upon the elements of this fungus, staining them a dark purple, which is in marked contrast to the green of lymphoid cells and cell nuclei, and the various shades of red of the fibrous tissues and cell protoplasm. This peculiar property of the stain has not yet been mentioned, so far as I know, and is one possessed by no other stain with which I am acquainted.

Before concluding this paper I wish to refer to the case of follicular hyphomycetous disease reported by Dr. Duhring and myself some little time ago.† The chief features of this case were, very briefly, as follows: The disease, which was of three years' duration, occurred in a boy fifteen years old, who had upon the sides of the neck several patches of papular and papulo-ulcerative lesions, arranged in a crescentic manner, which bore a considerable resemblance to a mild form

* *Annual de Dem. et de Syph.* 2 series. Vol. v, p. 437.
† *Amer Jour. of the Med Sci.* March, 1895, p. 283.

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of verrucose lupus vulgaris. The course of the disease had been extremely chronic, the patches extending slowly on their convex margins and undergoing spontaneous involution on the concave sides. A considerable number of the follicles had been destroyed, and some punctate scarring had resulted as a consequence. There was neither pain nor itching. Although, as is evident from the above brief description, this case differed materially in its clinical aspects from the one the subject of this paper, yet sections made of excised lesions of the two diseases presented the same appearances under the microscope. There were the same inflammatory changes in the follicles, and the same kind of fungous invasion as the cause of these changes.

In conclusion, these cases, which depart so widely from the usual text-book account of trichophytosis, teach us that the trichophyton may penetrate the deeper parts of the skin in regions other than the scalp and beard, giving rise to extensive and painful disease; and they further teach us the necessity for enlarging our conception of the pathological importance of this fungus.

DISCUSSION.

Dr. Wigglesworth: He wished to ask Dr. Hartzell whether he considered there was any relation between the extent and severity of the lesion and the source from which it was derived, for example, from the horse or some smaller animal.

Dr. White: He thought we recognized how deeply into the tissues of the skin some forms of fungus can penetrate in kerion, a much more common type of this affection than the agminate forms. It was on the scalp, and not on the face, that he had seen these agminate forms penetrate so deeply. We do see, however, in favus that its plant is capable of penetrating through the tissues of the skin even down to the periosteum, and produce changes there. It would seem, therefore, that both these forms of vegetable parasitic affections are capable of going down to great depths, whereas in versicolor and erythrasma penetration is always confined to the upper portion of the epithelial layer.

Dr. Elliot: He mentioned the fact that Dr. Robinson had found that the mycelium penetrated very deeply into the cutis.

Dr. Zeisler: He thought further explanation as to the aspect of the central patch was required.

Dr. Hartzell: In reply to Dr. Zeisler he said that was a portion over which the disease had already passed, leaving pigmentation, but no scar tissue whatever behind.

Dr. Hyde: After apologizing for diverting the discussion from the subject considered by the reader, he said that in connection with the question of Dr. Wigglesworth he was certain that on some soils the parasite flourished better than on others, and that contagion from special sources was likely to be severe. He had seen cases of exceed-

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ingly severe tricophyton derived from sheep in sheep-shearing—cases brought from the country to the city—and these had always been forms of sycosis. He had never seen this severe form of tricophyton developed on the scalp; but in one instance he saw it well marked on the non-hairy portion of the skin. Referring to the subject of erythrasma he was surprised that this disease is not more frequently diagnosed. Perhaps the members of the Association did not see it often. The number of cases reported this year is very small and chiefly by himself (the speaker was here informed by Drs. White and Zeisler that they had each reported cases this year), but he thought the disease by no means as rare as the text-books would lead one to suppose. It should be more carefully looked for. In one of his cases the symptoms were developed on the surface of the chest and belly, situations where the disease is not often seen.

Dr. Fox: The paper, he thought, had certainly added to our knowledge of the peculiarity of ring-worm. He objected to the title of the paper, and thought the case ought to have been reported as a unique case of trichophytosis, as the present name gave one the idea that it was something apart from, instead of a peculiar form of, the latter disease. Most of them had seen these peculiar forms of trichophyton which occasionally develop these small folliculate patches; and it is possible that the same condition might take place upon the hair of the leg, although he never observed such a case.

Dr. Sherwell: At former meetings he had spoken of the frequency and severity of trichophyton in the lower animals in his experience. He thought scratching had a great deal to do with the implication of other than epithelial tissue. He had often thought over the subject of the possible power of the parasite to penetrate the tissues in the natural way, that is without the assistance of scratching, and whether it could really live lower than the epithelial layer in the natural condition of the skin. He has always considered it possible, though perhaps not probable, that they did so; and he awaited with interest some microscopic investigations which will determine this point.

Dr. Robinson: He many years ago wrote a paper on the anatomical seat of this fungus, which article was the first to set forth the claim of the parasite being able to penetrate into the living tissue. Does Dr. Hartzell know that in this case the pustular lesions were caused by the trichophyton fungus, or by some other fungus? He did not think the trichophyton fungus capable of producing a suppurative inflammation.

Dr. Hartzell: In answer to Dr. Wigglesworth, he said he believed the severity of the disease was determined to a very considerable extent by the variety of the plant, but much more upon the character of the soil. The fungus, he thought, grew much more luxuriantly in deep cases than upon the surface, and the elements are larger than in the superficial varieties. In this case there is no doubt that there was a double infection, and he believed that to a certain extent an antagonism between the staphylococcus and the trichophyton. The fungus did not grow at all well in the pustules, but it was found deep down

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where there were no pus cells. He called this an uncommon case, because so far as he knew no other case of this character occurring in this situation has ever been reported. Of course we are all familiar with deep trichophytosis, as it occurs on the scalp and beard; but this is a different thing. He would like to hear as to the identity or non-identity of this disease with the agminate folliculitis of the French. He gave it the name he did more because of its clinical features than on account of its etiology; it did not resemble at all the ordinary ring-worm. He has already mentioned the fact that there were staphylococci in the pustules.

Dr. James C. White read his paper on

AN ETIOLOGICAL PUZZLE.

In these days, when we are beginning to appreciate the diversity of ways in which tuberculosis establishes itself by direct inoculation upon the cutaneous tissues, it is important to recognize all possibilities of infection. It is by such knowledge, and its general diffusion by ourselves among the people that we shall some time succeed in abolishing the needless ravages of this dreadful disease.

Let me first mention an instance, such as we are all constantly meeting with, of one of the most frequent methods of inoculation, and which is entirely preventable. I was recently consulted by a mother and daughter, the latter thirteen years old, both of whom presented lesions of tuberculosis verrucosa upon the hands, multiple upon the child. They had developed within the previous eighteen months. The father had recently died of phthisis, and both wife and daughter had habitually washed the handkerchiefs and other receptacles of the sputa used by the deceased. Can there be any doubt how the cutaneous infection was produced in this case? Could we devise a more likely method of inoculation than to macerate the epidermis by long immersion in hot water and then apply sputa swarming with active bacilli? Pulmonary tuberculosis was also just developing in the girl. It is not so easy to determine positively how infection of these internal organs was accomplished, but we should not ignore the possibility of secondary infection through open cutaneous lesions in such cases, considering how common it is for children, or even adults, to carry a sore upon the hand to the mouth and suck or moisten it for the soothing effect thus obtained. Had this mother known the danger of handling the handkerchiefs and sputa of consumptives, they might have easily avoided inoculation.

But the case to which I desire especially to call your attention is one which illustrates the multiform elements which possibly enter into

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the question of etiology at times in connection with this disease. A girl, eighteen years old, came to my clinic last June with perfectly characteristic tuberculosis of the lobes of both ears. They were thickened, of a dull red hue, shiny and slightly scaly, and of a boggy consistence. They had been gradually assuming this condition during the last eight years. It was an interesting problem to determine how two such isolated and symmetrical points could be so uniformly affected. Of course some connection with the boring of the ears at once suggested itself as an explanation, and on inquiry the following data were obtained. The ears were pierced eight years ago. They remained inflamed a long time; in fact they never healed, and this primary condition developed gradually into the present slowly progressive affection.

(1) The ears were bored by a woman, who died soon afterwards of consumption. She used a darning-needle, and threaded it after piercing the lobes.

(2) My patient had a sister who dressed the ears whilst sore, and this sister died soon afterwards of "quick consumption."

(3) The ears were frequently bathed with cow's milk after the operation.

Accepting the facts as thus elicited, it is evident that there were three possible sources of infection in the case:

First, the operator may have wetted the needle in her mouth on the supposition that it would enter the skin more readily, or she may have treated the end of the silk in the same way (a common practice) before threading the needle and drawing it through the lobes, both promising methods of infecting the wound with the bacillus tuberculosus.

Second, the ears were constantly dressed by the sister who was at the time in "quick consumption." We well recognize what opportunities were thus afforded for the transference of infective material from the one to the other. The fingers of the nurse were probably often contaminated by handling her handkerchief or other receptacle of the expectoration, or the mouth may have been wiped with them after coughing. With these fingers she was habitually making applications to the open wounds. Perfect bodily cleanliness is a far more difficult (often an impossible) condition in country life than with the ever-at-hand water conveniences of the city residence. We must not forget also that dried bacilli from contaminated clothing and furniture of the infected house may have entered the wounds through the medium of the air.

Third, the inflamed ears were frequently bathed with cow's milk

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to reduce the inflammation after the operation, a common household practice in the country. Now that we have become aware of the enormous prevalence of bovine tuberculosis, and of the consequent contamination of milk, we must admit the possibility of such an origin of the disease in my patient, and of the danger of the bread-and-milk poultice of domestic surgery.

I have thus briefly stated the possible methods of infection in this case of tuberculosis of the skin, because the accessible etiological data present in an exceptional way the diversity of origin in this affection, and because it illustrates in a striking manner the foes to health which may lurk unsuspected in every household until the knowledge regard-

the Montreal General Hospital, where the members had been invited by Dr. Shepherd, for the purpose of seeing the following patients of that institution :

(1) A young woman suffering from acne indurata with keloid.
(2) A man with syphilitic tertiary nodes of the back.
(3) A man with extreme condition of varicose veins of the leg.
(4) A man with lymph stasis of the arm.
(5) A woman with xanthoma tuberosum.
(6) A woman with icthyosis hystix.
(7) A case of elongation of the leg in a patient who had had for years and still suffered from an ulcerative eruption of that leg, attended by scarring. (Exhibited by Dr. Hutchison).

Dr. Fox took advantage of the condition present in case (3) to demonstrate the utility of his elastic bandage. This consisted of a series of elastic bands of different sizes, according to the size of the leg they were intended for, and was fitted on the limb from below upwards. Each ring or band measured four inches in breadth. The patient expressed himself as feeling greatly relieved when the bandage was on.

Dr. Hyde : Before the scientific session was formally opened he wished to propose that the thanks of the Association be tendered to Dr. Shepherd and his colleagues, for the kindness and courtesy shown them during their stay in this city, and that the same be recorded in the minutes of the Association, etc., in the usual way.

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DR. L. DUNCAN BULKLEY, of New York, read his paper entitled,

SLEEP IN ITS RELATIONS TO DISEASES OF THE SKIN.

To those who look upon affections of the skin as wholly or largely local affairs, dependent upon extraneous influences, whether parasitic or other, the discussion of the topic here proposed will probably seem unnecessary, and some of the statements unsound. But to those who take the broadest view of dermatology, and regard the aggregation of symptoms to which are given the names of different diseases as only the expression of various forms of disordered tissue-action, influenced by every element which conduces to perfect or imperfect nutrition and innervation, the subject is fraught with the greatest interest, and is one of a most practical character.

Sleep is undoubtedly one of nature's sweet restorers, and yet in the literature of dermatology, both in text-books, monographs and journal articles, I can find hardly an allusion to the subject and I do not know of its having been referred to in any society discussions on dermatological subjects, except in the briefest and most superficial manner.

On the other hand, with me it is one of the most important elements to consider in connection with many diseases of the skin, and for twenty-five years I have made notes in regard to this element in large numbers of my patients; so important do I consider it that on my printed paper for recording cases the word "sleep" appears twice, once in connection with the "previous history of the patient," and again in recording the condition of the patient at the time of first observation; record in regard to sleep also is commonly made, in very many patients, at each subsequent visit.

It is not necessary at the present time, even if I were able, to discuss the nature of sleep or the causes that produce it in the healthy individual. Every one recognizes "that natural condition of restful unconsciousness into which the system falls normally with more or less regularity daily." Everyone also recognizes the difference between this restful and perfectly refreshing sleep and that which is disturbed in varying degrees; the disturbance may vary from a slight insomnia to a more or less well-marked vigil or wakefulness, and there may be also various degrees of deranged sleep, from a not unpleasant dream to the agonizing distress seen in children or others starting up with "night terrors," also the varying degrees of sleep-talking, sleep-walking, etc.

Normal, healthy sleep is certainly one of the elements of health of the body and all its tissues, whereas disturbed or deranged sleep is a

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contributing factor to many diseased conditions of various structures of the body. As already remarked, the relations between sleep and diseases of the skin have not hitherto received the attention of dermatologists, but it is not quite reasonable that the state or condition in which more than one-third of the human life is spent must have something to do with the nutrition and innervation of the skin as well as of other organs? We all know how readily the expression of the face and the tone of the tissues will show the results of continued loss of sleep, while the fresh, vigorous tone of the skin of the person in perfect health, with perfect sleep, is equally well recognized by everyone.

But it is largely in the direction of the symptomatic character of disturbed sleep that this feature is of practical importance in dermatology. Normal sleep depends upon the perfect functionating of all the parts of the system, so that the periodical rest occurs in a natural manner; conversely, disturbance in the performance of the function of various portions of the body may lead to an imperfect sleep.

Illustrations of this are, of course, familiar to all; such are the restlessness in sleep with vivid dreams, and unrefreshing sleep dependent upon digestive disorders; the insomnia accompanying diseases of the heart and blood-vessels, that due to excessive use or abuse of tea, coffee, and tobacco; the wakefulness following excessive brain-work, grief, emotion, etc., and that due to cutaneous influences, as itching, pain, burning, etc.

For convenience of consideration we may arrange the causes of disturbance of sleep under six main classes, as follows:

1, Digestive; 2, Toxic; 3, Circulatory; 4, Nervous (direct or reflex); 5, Psychic; and 6, Cutaneous.

Time and space forbid my entering here fully into the subject, or elaborating in detail the features belonging to these six classes of causes, which exhibit themselves more or less frequently in disturbed sleep in many patients with diseases of the skin; some of them will appear later in our consideration of the matter in hand.

We may now study our subject somewhat more in detail and will consider: 1, Disturbances of sleep preceding or causing diseases of the skin; 2, Disturbances of sleep accompanying or caused by diseases of the skin; and 3, Means of removing disturbances of sleep in connection with diseases of the skin.

1. *Disturbances of Sleep Preceding or Causing Diseases of the Skin.*—In speaking of disturbances of sleep preceding or causing diseases of the skin I do not wish to be misunderstood. It is not

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claimed that the disturbances of sleep which shall be spoken of are often the direct causative agents which induce diseases in the skin, nor that their removal will necessarily be followed by recovery from the skin trouble. I only assert that for many years I have so constantly observed the concurrence of, and relations between the two, in very many patients, that, to my mind, the former should be observed, regarded, studied, and more or less treated from their basic stand-point, in order to obtain the very best results in the treatment of the latter.

In endeavoring to learn the exact character of the sleep of patients some considerable care will often be necessary. In questioning in regard to sleep the common and hasty answer will frequently be that the sleep is "all right," or "very good," or even "too good," when a careful cross-questioning will very often elicit the fact that this is far from being the case. Many are forgetful; many become so accustomed to the character of sleep which they have had, that they do not appreciate that it can be otherwise; and I have found large numbers of persons who, for many years at least, have not had at the right times and under the right conditions that "natural condition of restful unconsciousness" which constitutes perfectly normal, healthy sleep. Many will have drowsiness during the day or evening, and insomnia or unrefreshing sleep at night. Many will have long periods of vigil or wakefulness on retiring, or will awaken frequently, or very early in the morning, with inability to further sleep. In some the sleep will be heavy, "like a log," and troubled or not with vivid and annoying dreams; in others the sleep may seem fairly good, but is wholly unrefreshing in character, and the patient will be as tired in the morning as on retiring, or even more so; and patient inquiry will often discover many other aberrations from healthy, restful sleep. These may depend upon any one or more of the six principal causes already mentioned, or perhaps others.

Now, while these conditions exist, and they could be amplified very much more, perfect nutrition and innervation do not and cannot exist, and the skin tissues, even if restored to a comparatively normal state, by either external or internal measures, will readily yield again and become diseased. It is the failure to properly recognize and treat these and other derangements of the system which has led in some measure to the recognized obstinacy of skin diseases; and the dermatologist can never practise his branch in the highest and best manner unless he is thoroughly competent in general medicine, and skilled to recognize and treat the functional and other disturbances of the system which have so much to do with the vigor and health of the individual and all the tissues.

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In a not inconsiderable number of cases of eczema I have known the eruption to first appear after a period of sleeplessness, which in different cases, had occurred from quite different causes; and time and again I have known fresh attacks of eruption to come on, apparently from the same cause. How far this element of imperfect sleep has to do with the causation of other skin diseases I cannot tell positively at the present time. It is hoped that others will observe the matter closely and report their experience.

2. *Disturbances of Sleep Accompanying or Caused by Diseases of the Skin.*—The first disturbance, which will occur to every one, is that arising from itching. As all know, this is often a most distressing feature in many cases. From earliest infant life to extreme old age one afflicted with eczema may have sleep largely interrupted by itching; indeed, the nocturnal sufferings of these patients will often far exceed those of the day, and after a night of real agony, with only snatches of broken sleep, the patient enters on the day wholly unrefreshed.

The reasons for the greater distress from itching during the night, in many skin disorders, seem to be numerous: 1. The exhaustion of the nervous system by the activity of the day renders it more liable to disturbances, until the loss of nervous energy has been restored by sleep. 2. During sleep there is a certain withdrawal of the general nervous control of the system, which allows special irritations to assert themselves; this is observed also in relation to other disorders of the system, as in asthma, in certain neuralgias, in urinary and bladder affections, etc. 3. During the condition of somnolence there is also an absence of self-control, which leads the patient, perhaps unconsciously at first, to scratch and rub, even for a slight pruritus, and thus to excite an already irritated skin to an increased erethism and to the development of new lesions, requiring fresh scratching. 4. Just as the brain is especially excited at night by the products of faulty metabolism, resulting from digestive disorders, and even the nerve elements of the healthy skin suffer a like irritation during the period of sleep (manifested by restlessness and even burning and moderate itching), in like manner patches of diseased skin are especially irritated at night by the circulation of imperfectly elaborated blood. 5. Finally, the warmth of the bed favors a congestion of the skin, which congestion, pressing upon nerve elements already in a state of irritation, excites them to renewed activity.

I have known cases where complete nervous exhaustion has thus occurred, and remember vividly a lady who, having tried an infinity of

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remedies to get relief, had finally been given chloroform repeatedly by her husband for this purpose, with disastrously prostrating effects.

Other diseases—urticaria, pruritus, dermatitis herpetiformis, etc.—will often act in the same manner, and the resources of the physician will frequently be taxed to the uttermost in meeting this element of the case. In some instances, as in zoster, dermatalgia, and syphilis, the sleep will be broken by pain, which, indeed may be also a formidable obstacle to overcome ; various ulcerative affections and also bullous eruptions, as pemphigus, may in like manner interfere with sleep.

But, as mentioned in the preceding section, it is necessary to recognize certain other less marked disturbances of sleep, which will not infrequently be found accompanying some diseases of the skin, if indeed they are not caused by the conditions which lead up to the latter ; for, as already mentioned, we should not, in a study like the present, consider these diseases of the skin as entities, but only as expressions of a disordered physical state, the changes in the skin taking various forms, which we for convenience designate by different names of diseases.

In a not inconsiderable proportion of my cases of acne, in private practice, I find, on close questioning, that disorders of the sleep are very common ; and continually, as the case progresses to a cure, I find the character of the sleep change for the better. Many a patient has told me, during treatment, that for the first time in years the sleep had been of the natural refreshing character of health. The same is true, though to a somewhat lesser extent, in psoriasis and in other diseases, and also in eczema, even when the disturbance has not been from the itching, but only from the general systemic derangement.

The form of the sleep disorder in these cases has varied greatly. At times it has been vigil on retiring, in others an early wakefulness, perhaps even toward morning, say after three o'clock ; in many patients it has been only a disturbed character of sleep, with frequent dreams, of a pleasant or terrifying nature ; or, again, simply a restlessness at night, with a total want of refreshment in the morning, etc.

As I said before, I do not claim that all these sleep derangements are directly causative of or caused by the particular skin disorder present, but do believe that they are elements which go to make up the complex state finally exhibited by an eruption on the surface, and that unless they are more or less rectified, permanent good cannot be done.

In closing this section of our discussion mention should be made of the restlessness in sleep belonging to the eruptive fevers, and also

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of that accompanying some other conditions, as jaundice, glycosuria, and chronic kidney disease, where a dry and itchy skin prevents sleep.

3. *Means of Removing Disturbances of Sleep in Connection with Diseases of the Skin.*—To rightly understand and apply the correct principles and measures of treatment with success, that is, in the generality of cases, it is necessary, first, to keep well in mind the nature of physiological sleep, and the causes which disturb it, as already alluded to; and second, to study the individual case, in reference to the existing conditions antagonistic to sleep. Routine prescribing may occasionally give relief, but far oftener does harm. A vast weight of responsibility rests on those who in times past and present have vaunted this or that new soporific, which have too often been employed with but little thought, except to heed the enticing claims put forth by those who manufacture and push it for commercial purposes.

Sleep is, always has been, and probably always will be, a great mystery. While we undoubtedly know considerable in regard to the conditions of the brain during sleep, and the experiments and observations of many prove very conclusively that the brain is in a condition of anæmia during sleep, it is not known whether that anæmia is a primary condition, or whether it is secondary to changes in the brain cells, induced by a "periodic exhaustion of intra-ganglionic energy."

Fortunately, however, it is not necessary practically to fully understand the exact order of precedence of the causative elements of sleep; for we do not know positively that agencies can cause insomnia which operate in either of two directions, namely, by furnishing stimulus to the nerve cells, reflex or otherwise, or by causing excitement to the cerebral circulation.

A most interesting experiment by Chapin, cited by Long Fox, demonstrates the latter perfectly. He applied amyl nitrite, which promotes the circulation of the brain, very carefully to the nostrils of a number of patients who were sound asleep, and in every case they awoke promptly; this was repeated on several evenings on different patients with a uniform result. As a counter experiment he applied bisulphide of carbon and oil of peppermint to other patients, not a third of whom were roused; showing that the results were from the action of the amyl nitrite on the circulation, and not simply from the odor, or from his presence near the bed, etc. All recognize, of course, that stimulus to the brain cells, as by light, sound, severe pain, or itching, brings consciousness, and also that intense mental activity prevents sleep.

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The disturbance of sleep by reflex action from other parts of the system, and by the irritating effects of the products of imperfect assimilation and dis-assimilation are more or less commonly recognized, even by the laity. The child who tosses in sleep will often be rightly thought to have intestinal worms, or will be suffering from undigested substances; and all degrees of restlessness and deranged sleep will be noticed from the latter cause, even up to violent manifestations of "nightmare" and "night horrors."

All recognize the perturbed sleep after partaking of heavy or indigestible substances, especially late at night, and also that associated with many forms of chronic indigestion. Now it is just these conditions which so frequently exist in those suffering from many diseases of the skin, and which often play an important part in the ill health which leads up to them; and it is these which it is often of the greatest importance to consider and treat, if the best results would be obtained in the skin lesions.

I am convinced that often when itching exists, and seems to be the cause which prevents or disturbs sleep, the real cause, in part at least, will be found elsewhere, and that the patient will sleep well if that is removed, even in spite of some itching. I will, therefore, consider this last section of our subject under the six main classes of the causes of disturbance of sleep already mentioned, namely: 1, Digestive; 2, Toxic; 3, Circulatory; 4, Nervous (direct or reflex); 5, Psychic; and 6, Cutaneous.

1. *Digestive.*—The subject of the disturbances of sleep by digestive derangements is so great that it can be hardly more than touched upon at the present time. But, on the other hand, it is one of the most important points to consider in connection with many diseases of the skin, and must not be passed by with a single question. Not only should remedies be given to correct the digestive disorders, but accurate directions should be given as to diet; for, with modern life, the temptations to error in eating and drinking are so great that few escape some digestive disorder, and with many this affects sleep; indeed, sometimes sleep disturbance will be about its only marked symptom. Late eating at night, and that generally of indigestible substances, is a fertile cause of sleep disorder; on the other hand, long abstinence from food will also frequently interfere with sleep. In this latter case, if patients are awake four or five hours after finishing supper, say until midnight, a warm drink, such as pure milk alone, or a very weak broth of meat extract, or thin gruel, will commonly secure perfect sleep.

It will often, however, be quite difficult to determine exactly the

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dietary error at the bottom of the sleeplessness, but it can be accomplished by patient investigation. Sometimes constipation will be the cause of deranged sleep, and all must have noticed how much better and more refreshing sleep is apt to be after a free purgation, when this has been needed.

2. *Toxic.*—Toxic disturbances of the sleep are much more common than is supposed. These include not only the effects of the excessive use of coffee, tea, and tobacco, but also other disturbing elements, such as quinine and some other drugs. The toxic character of many of the products of gout will also prevent or derange sleep, and should always be taken into consideration. This is, of course, closely connected with the preceding section, and much care should be given in these cases in securing the most perfect metabolism possible; this is to be accomplished by various means, including diet, hygiene, exercise, and remedies affecting the chylo-poietic viscera. Hypnotics should be rarely resorted to.

3. *Circulatory.*—Not only in marked disease of the heart, in aneurism, and in atheroma may there be derangement of sleep, but this is apt to happen frequently where no gross lesions of the heart or blood-vessels exist, but where there is only heart-weakness and functional disturbance of the circulation. This may manifest itself in many ways. With an excited circulation, often evidenced by throbbing in the head, the warm bath, or even a foot-bath on retiring, will so withdraw the blood current from the brain that the symptom will no longer cause annoyance. Recently a patient of mine with lichen planus, who was very actively engaged as a lawyer, under great and prolonged excitement connected with some recent public trials, obtained sweet and refreshing sleep in this way for many nights in succession. In some cases one of the bromides, with a trace of aconite, will give entire relief. In some cases, on the other hand, where there is heart weakness and a general weak tonicity of the blood-vessels, digitalin, given before meals, and at bed-time, will act better than anything else, as I have repeatedly witnessed.

Another form of deranged circulation will be manifested in cold and clammy hands and feet, which are continually observed in skin patients, and which often prevents sleep long after retiring. Digitalin will often remove this, as will also the appropriate treatment for the anæmia causing it; relief is obtained, likewise, by plunging the members alternately into basins of hot and cold water, and by other measures which readily suggest themselves.

4. *Nervous.*—Nervous (direct or reflex) causes of the derangement of sleep in patients with diseases of the skin are numerous, and

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will often require some care in their discovery and removal. In many a case the skin lesion will be but one of the signs of a general breakdown which has come from excessive or injudicious use of the brain, and the insomnia which has resulted has in turn contributed much to the further debility of tissue; in some instances it has come from overwork, or from social or other dissipation, with restricted hours of sleep. These cases often require very delicate handling, by all means tending to restore exhausted brain cells; it is worse than useless to give the so-called sedative remedies, and even bromide of potassium will sooner or later increase instead of diminish the trouble we seek to remove. Good and proper feeding, with nerve tonics, and friction of the surface, such as a thorough rubbing of the body and limbs with a Turkish towel at night, after a brisk sponge with tepid water, or even a cold pack, etc., will often restore the nervous vitality and permit of sleep. In some cases digitalis, by restoring tone to the overstrained and relaxed capillaries of the brain will be of much service, as may also ergot.

If the sleep disturbance is caused by reflex nervous irritation, whether it be by intestinal worms, uterine, bladder, throat, or other disease, these will require attention before the sleep can be of the refreshing character which leads to a perfect restoration to health.

When the sleep of patients with diseases of the skin is disturbed by extraneous influences, as noise, light, heat, cold, etc., these matters should be looked into and rectified, if possible; and pain from any cause, disturbing sleep, should also be relieved, if practicable, for the reasons already mentioned.

5. *Psychic.*—Psychic disturbances of sleep are not at all uncommon, and will often have to be met in treating diseases of the skin. Mental cares, whether of business, domestic or social character, may all at times act as powerful depressants, and by interfering with perfect sleep hinder the cure of skin lesions. In addition to general rules, and the endeavor to free the mind from the disturbing load, these cases will often receive the greatest benefit from the judicious use of proper hypnotic remedies for a short period. I well remember the case of a young lady, much afflicted with acne, who had been utterly sleepless for some little time, owing to an unfortunate love affair. A few full doses of a mild hypnotic insured prolonged and refreshing sleep, after which the preceding troubles vanished under the appropriate treatment.

6. *Cutaneous.*—Before speaking of the relief of sleep disturbed by pain, itching, and burning in the skin, I wish to make a single cautionary remark, namely: It is an error to suppose in every instance

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where the patient complains that the sleep is disturbed by these causes that this is wholly the case. In many, many instances, some of the other elements which we have considered are really at the bottom of the sleep disturbance, and when the patient is thus deprived of sleep the pain or itching asserts itself, and then forms an additional cause of wakefulness. A single illustration will suffice to recall others. How often do we find that those who are called upon to empty the bladder at night are, when thus aroused, distressed and then kept awake by the itching which is induced by the exposure of the surface to the air after warmth in bed. The same occurs when some are awakened by troublesome dreams, by palpitation, by indigestion, or, perhaps, by a laryngeal cough, of gouty origin, it may be. Now the careful and proper attention given to these, and their removal by appropriate measures, will often be of the very greatest importance in securing rest in sleep for those afflicted with diseases of the skin. And if this refreshing sleep is obtained, then with the resulting gain to the nervous system the very pain or itching will be less annoying, and so will be more easily controlled.

We may dismiss very briefly the subject of pain as a disturber of sleep in connection with diseases of the skin. This should always be attended to, and special methods will suggest themselves to all. The pain from syphilitic lesions will generally yield more or less promptly to very actively pushed specific medication suitable to the special stage of the disease or character of the lesion present; but opium or morphia may occasionally be needed. I have also repeatedly found the very greatest, indeed perfect relief to osteocopic and neuralgic pains in syphilis, from antifebrin, in about five-grain doses, given every hour or two, with hot water, and a little whiskey if there seems to be any depression.

In the distressing pain often accompanying or following herpes zoster, especially in elderly persons, galvanism will prove very valuable, and I recall a patient who, having previously had distressing nights from ophthalmic zoster, would drop off to sleep while galvanism was being applied. Antifebrin is also extremely serviceable, and will secure sleep even when the pain has previously produced great wakefulness; it must be used freely, however, to be of great service, and needs to be watched.

Itching as a cause of sleep disturbance is unfortunately too well-known to everyone, and all are familiar with the difficulties often attending its relief. Proper internal and local treatment, of course, play the most important part in securing sleep under these conditions; but I will not attempt to develop this subject, which could alone

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occupy our entire time. A few words, however, may not be out of place in regard to some of the details connected with the latter, which are sometimes overlooked.

Patients generally understand very little in regard to modes of making applications to the skin, and very explicit directions are often necessary to secure the desired result. The same application used in a right and a wrong way may produce very different results. This is strikingly illustrated in connection with eczema of the scrotum. With the exactly proper application of hot water, followed immediately by the perfect adjustment of an ointment of tar and zinc, spread on lint, closely applied and kept firmly in position, we may often get perfect rest at night, when a previous application, wrongly made, has been followed by great insomnia. I have frequently seen sound sleep secured in infants, with the most severe and general eczema by a proper dressing, firmly bound on only to the parts which were most liable to be scratched, when a former dressing, quite proper in itself, but loosely and wrongly applied, had given no results.

In some instances the exposure of the body to the cool air, on undressing at night, will excite so much pruritus that sleep is prevented; much of this can be prevented by avoiding this exposure, the patient going to bed with the underclothing on, making an application beneath the clothing; in the morning a general dressing of the affected parts can be made, if desired, and fresh underclothing put on. Also, in regard to taking baths, whether medicated or not, errors may occur which will result in the sleep being disturbed or altogether prevented. Sometimes baths will be taken so hot as to excite the circulation and prevent sleep; in the process of drying the skin after them, patients may also so stimulate the surface with towels that subsequent applications do not suffice to allay the irritation, which then prevents sleep. In a word regard must always be had for sleep in giving directions for treatment of skin patients, for, as stated before, a restless or sleepless night will often operate so disadvantageously to the patient that much of the good effect of treatment may be lost.

In the matter of the administration of internal remedies to secure sleep in patients disturbed by itching, there is need of the exercise of much discretion; they are often *needlessly* given, they not infrequently prove *useless*, and are sometimes *harmful*. From what has preceded the needlessness of hypnotics in many cases has been abundantly shown. Their uselessness is seen where the irritation from the skin is very great; for they rarely serve to secure sleep until the irritating is in a large measure removed. Their harmfulness frequently appears in the attempt to substitute them for the proper measures of

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relief, general or local, or to press stronger and stronger remedies, even to the great depression of the nervous system.

But, on the other hand, by the judicious use of these we can occasionally accomplish very much, both for the comfort of the patient and for the cure of the disease. The first point to remember, which is often forgotten by the profession, is the utter futility of prescribing preparations of opium to secure sleep, when it is disturbed by itching; the skin irritation is commonly so aggravated thereby that the narcotic effect of the drug is largely nullified, and if sleep or stupor is secured by a large dosage, it is of the most unrefreshing nature, and the scratching during sleep, which commonly occurs, will often greatly aggravate the disease.

There are, however, remedies which often aid in quieting the pruritus, and which may be given with advantage. When not otherwise contraindicated, bromide of soda in good dose, with a fair amount of tincture of aconite, will often produce a quiescent effect which is most happy. Tincture of gelsemium, in increasing doses, given every half hour, for three doses has acted excellently in my hands; cannabis indica, employed in the same way, is also often very efficient.

I may remark that the method of preparing three increasing doses of a remedy, and placing them under the patient's control, by the bed, before retiring, will also aid in the action desired; the expectancy of the result augments its efficiency. I direct that one dose shall be taken on getting into bed, the second half an hour later, if needed, and the third still half an hour or an hour later. Repeatedly I have found that the third dose was left untouched, and rarely do the three doses fail of action. The patient should be instructed to have the doses ready, properly diluted, in separate glasses, so that they can be drank in bed, with as little rousing as possible, and certainly without rising to prepare or take them.

Phenacetin often proves a most valuable hypnotic in pruritic cases; three doses may be arranged in the manner above described. Antifebrin is also serviceable, but requires greater caution in its use. Sulphonal is frequently given to secure sleep under these circumstances, but in my experience it is not a very satisfactory remedy. When used thus there seems to be a later depression of the nervous system, which in the end aggravates the skin complaint. I have used trional some, but have not yet been very well satisfied with the results. Chloral has also a secondary nervous reaction which is often harmful, although in certain cases its use for a night or two will seem to so induce the sleep habit that patients can afterward do without any aid; it can often be advantageously combined with bromides. Paraldehyde will also oc-

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casionally act very favorably, and is a relatively safe remedy. Chloramide I have seldom used. Urethran has sometimes proved of very great service where the itching was not severe, but when the latter is excessive it has little if any effect on the sleep.

In many cases, even where there has been considerable sleeplessness from itching, which local or general treatment fails to relieve sufficiently to allow of sleep, an excellent effect may be produced by a large warm drink on retiring, without the aid of any hypnotic drug. For this purpose I have made use of warm milk (not boiled), if sufficient time (at least four hours) has elapsed after eating, to allow of the stomach being perfectly empty; the milk, even to the amount of a pint, being drank pure and alone, without other food or medicament. Gruels made of wheat preparations also serve admirably well, and in many cases one of the meat extracts, such as bovox, a tablespoonful in a large tumbler of hot water, acts as a perfect hypnotic. In some instances the best addition to the hot water is a half teaspoonful of Horsford's acid phosphate.

In all these instances the action is much the same, namely, diverting blood to the stomach, and so aiding in producing the brain ischæmia necessary to sleep.

In bringing this memoir to a close I must again emphasize some of the points already mentioned:

1. Sleep is an exceedingly important factor to consider in connection with many diseases of the skin, disorders in sleep occurring both as a contributing cause and as an effect of the same.

2. The disorders of sleep occurring in patients with diseases of the skin may arise from many different conditions; the six principal causes may be classed as, *a*, digestive; *b*, toxic; *c*, circulatory; *d*, nervous (direct or reflex); *e*, psychic, and *f*, cutaneous.

3. These causes of disturbances of sleep should be searched for and relieved, because of the injury resulting from imperfect sleep in producing or aggravating many diseases of the skin.

4. In cases where the sleep disturbance is caused by the disease of the skin, the effort should be made to get relief to the insomnia by the proper internal and external treatment of the skin affection, before resorting to hypnotics; attention to details is often very necessary to secure this end.

5. Preparations of opium may be resorted to when the disturbance of sleep is caused by pain connected with the skin disease, but these are useless or harmful when the wakefulness results from itching. Chloroform or ether are also not to be advised for this purpose.

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6. Some of the newer so-called anti-neuralgic and hypnotic remedies are often of great service in quieting the general irritation and inducing sleep, and gelsemium and cannabis indica are also valuable. It is often desirable to give repeated doses, at half hour intervals, until the desired effect is produced.

DISCUSSION.

DR. WHITE: He thought this a valuable contribution to our therapeutics, and a subject that deserved careful consideration.

DR. BULKLEY: He was aware of the prejudice against such constitutional treatment for skin diseases, as he had described and expected that his remarks would be unfavorably regarded, but he wished they had evoked more discussion. He thought the present topical treatment had brought discredit on dermatology; people only now want something to put on their skin. He himself was brought up a localist and returned from Europe over twenty-five years ago with as fine a contempt for constitutional treatment as any of them. Time and observation, however, had taught him differently. He had seen many patients who had been treated locally for months, and who, for the want of constitutional attention, had been done more harm to than good.

DR. JOSEPH ZEISLER, of Chicago, read his paper entitled

NOTE ON THE ANTIPARASITIC TREATMENT OF ECZEMA.

He did not go into a detailed presentation of such clinical and pathological facts which made it probable that many eczemas owed their existence or persistence to the presence of parasites, but pointed out that many of the well-known and trusted remedies in the local management of eczema—like salicylic acid, carbolic acid, thymol, tar, and others—were distinct parasiticides. Without trying to discredit the value of internal, hygienic, and dietetic measures, he then gave his experience as to the use of strong antiparasitic drugs, among which he found particularly valuable a combination of equal parts of chloral, iodine, and carbolic acid, as suggested by Cutler for other purposes. He fully detailed the indications and mode of application for the mixture, which he did not consider as a panacea, but rather as a type for a whole number of other probably equally useful drugs or combination of drugs. He mentioned, for instance, rather encouraging results in the treatment of eczema with creolin.

DISCUSSION.

DR. BOWEN said that while he was prepared to admit that a good many cases of eczema, particularly the sharply bounded and serpiginous

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forms, may be of parasitic origin, he did not feel there was as yet any proof for that belief, and it must remain for the present simply an hypothesis. He wished to know if Dr. Zeisler had in these cases tried the parallel treatment with the older and less experimental drugs; unless that were so it seemed to the speaker not right to draw conclusions.

Dr. Fox: With regard to the parasitic origin of eczema, he is so entirely opposed to Dr. Zeisler, that it would be idle for him to criticise the paper. As to Cutler's mixture, however, he could say that they had given it a fair trial at the Vanderbilt Clinic, and although anxious to be favorably impressed, they were obliged to admit that it was not superior to carbolic acid alone. It had consequently been permanently discarded. He took exception to the manner in which Dr. Zeisler had alluded to the dietetic treatment of eczema, speaking of it as merely a minor, but useful adjunct to the local remedies; now in the speaker's opinion the diet and hygienic treatment was of greater importance than any local treatment that could be devised. Nine out of ten patients with such ailments would often do better in the hands of a trainer than in those of a physician. In many cases a course of athletics under a trainer would cure chronic eczema of the scrotum, anus, etc, far quicker than could any physician with his arsenic and the whole list of local remedies. As to medicines, he had carefully tested all the new remedies that had appeared for years back; but he could not say that he found many of them superior to the old.

Dr. Jackson: Most of them, he thought, were not yet prepared to admit the parasitic origin of eczema. He had tried Cutler's mixture, and whereas in some cases it did apparently very well, yet it did not do any better than the older remedies would have done; and besides he never could see why a combination of carbolic acid, chloral and iodine (Cutler's mixture) should act better than these drugs separately. He objected to this combination treatment as tending to confuse. He would like to know what strength the creolin was used. He had tried it but found it sometimes very irritating. Some of the assistants at the Vanderbilt Clinic were very fond of using it, and believed it to be most beneficial in acute cases.

Dr. Hartzell: He was very loathe to believe in the parasitic origin of eczema. No doubt all kinds of micro-organisms would be found on eczemic patches, but so they could on the normal skin, and it has yet to be proved that they are instrumental in its production. So far as his experience goes of the anti-parasitic treatment, it has shown a tendency to set up irritation, and the cases are often aggravated. In patches of chronic eczema, he believed they acted beneficially by setting up a substitution inflammation which caused the skin to take on a more healthy condition and the eczema disappeared.

Dr. Fordyce believed that eczema depended on a great many conditions, both constitutional and local. An eczema could result from heat or chemical agents, and persist after the irritant ceased. In some cases he thought it might be purely a parasitic affection, but in others he believed it a constitutional affection with the parasitic element superadded. These cases were benefitted by the antiparasitic treat-

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ment. He could recall a number of cases of eczema rubrum and squamosum of the leg that were cured by sulphur ointment after the usual applications had failed. He had used Cutler's mixture only in ringworm of the scalp, which Cutler claimed could be cured by three or four applications. He had so far made a half dozen applications to a case without improvement.

Dr. Elliot: He had believed for a number of years that a large proportion of cases of eczema were due to parasites, although as yet we had not been able to prove the fact. A close study of eczema shows that a large number of cases, from their clinical appearances and their whole behavior, are evidently of parasitic nature, depending upon something outside the body; on the other hand, a large number depend on some condition inside the body. Some again are due to internal conditions with a local factor added. He might mention here again the history of some cases he had published. An institution employing plaster of Paris bandages to a great extent, found various eruptions in the habit of appearing on the patients under the bandages. These cases were sent to him, and among them were about twenty of eczema—an eczema of a peculiar type having a tendency to extend peripherally over the surface with sharply defined borders, and itching very slightly. There were also cases of tinea tonsurans and of favus. The question asked was how to prevent these occurrences. He had recommended that the portion of the body to be covered with plaster of Paris should be thoroughly sterilized first with soap and water, then a bichloride solution, then washed off with ether and alcohol. Since the time this had been done not one case had developed underneath the plaster of Paris. That seemed pretty strong proof to him of the parasitic origin of these cases of eczema. Again if one takes the result of treatment it can be stated more emphatically still that eczema may be parasitic in origin. He saw a number of cases which were not at all benefitted by internal treatment. In one case in which a large portion of the body was covered by aggravated lesions, which had been present over six months in spite of constitutional treatment, the eruption disappeared in three weeks when the antiparasitic remedies were applied. It seemed to him that even if the idea that they were of parasitic origin was wrong, they should be treated as such on account of the results. He had never been able to see any good from dietetic treatment; and he believed that although in some cases it may benefit the patient, it never has any absolutely curative effect on the disease.

Dr. White: All dermatitis can exist in a serpiginous or marginal form in the tissues of the skin without the action of a parasite. He could not see any evidence why we should conclude that eczema is ever a parasitic disease, except in so far as its circular or peripheral growth may so indicate, and if this be sufficient, then every case of psoriasis must be of parasitic origin. Apart from this there is no other clinical evidence in favor of it, and no essential proof of its parasitic nature by contagion or innoculation has ever been given. The long endurance of the affection, its capability of spontaneous evolution, the limitation of its spreading, are in the mind of the speaker wholly contrary to

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the ordinary action of parasites on the skin. Until, therefore, some proof, such as the discovery of the parasite, etc., he is not prepared to accept this belief as to its etiology. The cure of the disease by anti-parasitic remedies is no proof as to the cause; and it seemed to him that this paper might as well be called "A Stimulating Treatment of Eczema." All the remedies used are stimulants, and we know that stimulants have long been successfully employed on the skin, which have no special parasitic action—such as cantharides, potash, etc. It seems to him our selection of drugs for the external treatment of eczema is purely empirical. Certain drugs have for centuries been more or less successfully employed; new ones from time to time appear, are highly spoken of, and then disappear, when we generally fall back on the old ones.

Dr. Bulkley: After being known as an absolute defender of the other side, he thought he could speak better than some in favor of the anti-parasitic treatment of eczema. He now thought there were two sides to the question. He gave an illustration of his farmer who strewed a bushel of ashes over a patch of barren soil, on which for years nothing but weeds and stones could grow, and in a short while a luxuriant crop of clover made its appearance, continuing to do so for a number of years. Now, the farmer had sowed no clover seed; he had simply sowed the ashes, which, rendering the soil suitable, the seed, present everywhere, sprang into growth. This was a lesson to him in dermatology. Whatever be the local or immediate cause of eczema, he does not believe it could come into operation unless the soil was ready for it. That is the principle on which he acts. He did not believe any person was entirely cured of eczema until he had undergone a thorough renovation of his system. This done, the local cause may still exist, but it is powerless. He believes still more than ever in the necessity for internal treatment, and in this respect he could most emphatically endorse all that had been said by Dr. Fox and others in its favor, but he believed in local treatment also.

We have parallel instances in certain other well-known diseases, such as asthma, hay fever, rose colds, etc.; no one doubts that attacks of these diseases are produced by some local cause; but no one, on the other hand, would claim that the local cause was alone capable of producing the disease. There must exist a predisposition in the system before they can develop. The more, therefore, he observes, the more convinced does he become that there are local causes for eczema which we must recognize in our treatment, as scientifically as possible. He has known many patients who, after leaving him, went home, got a box of Heiskel's Ointment (a preparation of mercury) and cured themselves. The same is true of sulphur ointment. He had, therefore, come to use local treatment in eczema more and more. He did not agree with Dr. White in thinking that we should exclude the idea of parasitism because we cannot prove the parasite by means of the microscope. That had nothing to do with the question. The question, to his mind was how a certain class of drugs, which do more than stimulate, and in the presence of which parasites cannot grow, prove beneficial; and he thought the conclusion a fairly logical one that they cured by render-

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ing the soil unfit for the development of the micro-organism. He found Cutler's mixture very useful in ring-worm when carefully employed; he would like Dr. Zeisler to state in what strength he was accustomed to use it. He could not imagine many cases of eczema where the full strength could be used.

In conclusion he wished to say that he had come to look on the parasitic origin of eczema more favorably during the past five years; and he thought if cases were carefully studied, and parasiticides judiciously employed, followed by the proper soothing remedies, we would find better results in the future than in the past. At the same time he did not want to be understood as believing the parasite to be the sole cause of eczema; it was the cause, perhaps, of the particular lesion present, but a cause that could not operate unless that condition of the constitution which is the real cause of the disease existed. He, therefore, had not departed one iota from his opinion as to the paramount importance of constitutional treatment, but this did not make it necessary for him to believe local treatment useless.

Dr. Klotz said he did not agree with those who believe and teach that eczema in itself and under all circumstances does require constitutional treatment and a particular diet, or that there exists a specific diet or a specific general treatment for eczema. But he was ready to acknowledge that wherever certain abnormal and pathological conditions of other organs or of nutrition were present in a patient affected with eczema, the eczema could be treated much more effectually with external remedies and cured in quicker time and more permanently, if the pathological conditions were attended to at the same time by proper treatment and removed if possible. It ought not to be overlooked, however, that certain forms of eczema had a tendency to spontaneous disappearance, often without any tangible reason, and not so rarely after the patience of the patient, as well as of the physician, had sorely been tried by vain attempt to effect a cure by external or by general treatment, or by both.

He did not rely on ointments alone in the external treatment, partly because under certain circumstances and in certain individuals no ointment whatever, however mild, would be tolerated, partly because the parasiticides become more or less inert and unable to develop their destructive powers on the microbes, if in the form of ointments. He had no personal experience with *Cutler's* solution, but in chronic cases he frequently resorted to applications of strong, and even caustic solutions, to the affected parts, particularly of chrysarobin, nitrate of silver, and more recently of a 50 per cent. solution or mixture of ichthyol with water. The latter drys very quickly, needing no covering, and could be easily removed with water. He thought that the external remedies often failed because they were not properly applied, *i. e.*, not so that they actually came in contact with the tissues, really the seat of the inflammatory process. He therefore frequently used applications of more or less diluted liquor potassæ, which, if rubbed into the skin by means of cotton, promptly removed the scales, dried up and degenerated epidermis and other debris from the affected parts, and exposed the diseased surface itself often on places which

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previously had looked perfectly normal. The procedure caused some burning, often quite intense, but usually of short duration and easily made bearable by cocaine.

Dr. Wigglesworth thought that Dr. Zeisler was wiser than he knew in preparing this paper, which was gradually bringing out the views of every member of the Association as to the treatment of eczema. This idea was briefly as follows: We have here a superficial protective envelope—the skin—for the whole body. It is constantly desquamating; being furthest from the center of circulation it is less highly vitalized than any other part of the body; it is most exposed to depressing influences of an external nature; and according to the severity of the attack from these latter, or weakness of the defense on the part of the skin, we can get nutritive changes in the latter which it is customary to call eczema. Granting then that local remedies are effective in curing the lesion, we have still existing the same external influence which made the attack, and the same internal weakness which permitted the success of the attack; and, while these exist, can we truly say we have cured the disease? The air is always full of germs and spores; one of these growing upon the surface gives certain conditions, other ones other conditions, and there is no reason why we should not get a multiple condition of results arising from combined conditions. That explained to him the different results obtained from the same treatment; at one time a soothing treatment fails; at another time the stimulating treatment. As to the practical aspect of the treatment of eczema, he thought we were tending too much to attribute magical effects to external applications. Personally he agreed with Dr. Fox in thinking that however much the gentlemen present might favor constitutional treatment in the abstract, practically they neglected it in the treatment of the disease. He disagreed with Dr. Elliot as to the dietetic treatment of eczema. Patients came to him, tired of better men; he gave them the same treatment, but supplemented it with hygienic treatment, and they got well. It was his custom to go through the whole course of life of each patient; he then tried to give them general instruction as to how they should avoid all depressing causes, his object being to bring about a general condition of health, improve the general nutrition of the skin, and throw off this irritant process. Bathing in one case, fresh air in another, and sound sleep in another will be indicated and required before a cure can be effected. Again it is an improper diet that is at fault, and which must be corrected before permanent benefit can follow. Others may be aggravating or keeping up this condition by tight clothing, etc., which must be inquired into. In conclusion the speaker expressed the belief that better results would be obtained in the treatment of this disease if gentlemen would be thoroughly practical and remember that we are dealing with a mass of material working under physiological laws; that the disease, while a mere getting off the track, as it were, and a damaging of some portion of its cars, requires something more than repairing the damaged part; it requires to be set back again on the rails; and it is only a waste of time to devote onesself to trying to obtain magical effects from local remedies.

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Dr. Robinson: He did not consider there was such a disease—a clinical entity as eczema; he preferred to call the condition included under that name catarrhal dermatitis, or eczematous inflammation, until such time as we could separate the various clinical pictures, according to their respective causes and give them names in keeping. That we had already made some progress in this direction, he instanced the conditions now called ring-worm, scabies, seborrhœal eczema and some others, which he said were all called eczemas until we detected their proper causes, and their proper names and treatment followed as a matter of course. He still believed that inflammation of the skin can be caused by mechanical and chemical means, and it did not follow that because you have such a condition it must necessarily be of a parasitic origin, although most of them were parasitic. Small intestine fermentation, caused by micro-organism, often produced eczema on a toxic eczema in children and adults, and thus we see that not only can we have dermatitis arising from mechanical and chemical agents, from external parasites, but from internal irritation as well, and it is only after ascertaining its special cause that we can hope to treat it properly. Suppose the cause to be some internal irritation; to treat the condition properly it would be necessary for us to consider not only the original factor, but any concomitant and added factors; and in the majority of cases we must consider not only the etiological, but the pathological changes in the part affected as well. In seborrhæal eczema and ring-worm the circulatory and nutritive changes resulting from the parasitis action are not great; and the condition requires little more than local anti-parasitic treatment. But in a large number of other cases, concerning which we know so little, more is necessary; we should know something about the histological characters, something about what is going on in the prickle layer and corium, and treat the condition on general antiphlogistic rules. The intensity and stage of the inflammatory process being the main guide as to the character in action of the local application. In chronic eczema, where the changes take place in a certain layer of the skin (prickle layer) to remove the corneous layer is often harmful; what we want is to protect the rete until brought into a normal condition; to do this a more thorough knowledge not only of our histology but of the pathological changes as well is absolutely required. Of course, predisposing conditions are morbid factors to be reckoned with, but they are often perhaps only concomitant features. In diabetes and in the uric acid diathesis the local inflammations may be cured by internal treatment alone, but that is no reason why the disease, even in these cases, should not have a local cause (a micro-organism.)

Dr. Hyde: He did not wish it understood by his previous remarks that he believed there were no cases of eczema parasitic in origin; he believed there were such, and that they required parasitic treatment. These cases were, however, in the minority; and he believed more could be relieved by a soothing local and constitutional line of treatment than by parasticides alone.

Dr. Shepherd: All cases were parasitic in his opinion. The fact that internal treatment sometimes cured an eczema did not prove the

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constitutional origin of the disease; it simply altered the conditions of the affected part and enabled it to throw off the disease. Micrococcal elements are always present in the skin, it only requires a suitable condition to cause them to grow, and that condition is generally of the nature of a depression of vitality in the part. Take erysipelas for instance, the stereptococcus in one case produces erysipelas, in another peritonitis, in another ordinary inflammation. It is not that the streptococci differ; but rather that the condition of the soil differs. In uric acid diathesis and such like conditions which predispose to eczema, if you remove the cause, the eczema disappears likewise; something is added or taken away which renders the skin less vulnerable.

Dr. Graham: He had, in the past two years, seen two cases which seemed to demonstrate the existence of eczema arising from internal causes. One was a case of universal eczema accompanied by hepatic symptoms—the gall-bladder was filled with gall stones. In a second case also of universal eczema, the post-mortem examination showed the liver studded with tubercles and extreme fatty infiltration of the hepatic cells.

Dr. Sherwell congratulated the members on the character of the discussion and expressed his satisfaction that the suggestion he had made in his address at the first session as to the propriety of holding a general discussion on the treatment of eczema was so well warranted. Personally I have a leaning in favor of coincidental constitutional treatment, but this does not prevent me from making the fullest use of the local treatment as required. He disagreed with Dr. Elliot's statement that at the last meeting of the British Medical Association, Dr. Crocker condemned constitutional treatment as useless, almost the reverse being the fact. He thought if possible that Dr. Elliot referred to Dr. Malcolm Morris' remarks.

Dr. Zeisler: He did not expect to settle the question in a discussion as short as that permitted here; but he was sufficiently supported in his having brought the paper before them by the fact that several present agreed with him as to the parasitic nature of eczema. They need not be ashamed of such a belief when they remember they have such a pre-eminent representative of English dermatology as Malcolm Morris on their side. It seemed to him a new era was dawning in the treatment of eczema. He replied to Dr. Fox by quoting the old latin saying: *Duo si faciunt idem, non semper est idem;* he had seen the good effects of this treatment in hundreds of cases, so thought there must be something in it. In reply to Dr. Jackson, he thought a combination of drugs had its use as well as its abuse; in the case of Cutler's solution there was reason why the compound should be superior to the separate ingredients. Carbolic acid alone is too strong; iodine is a good diluent; and the chloral may have had an antipruritic effect. In answer to Dr. Bowen, he assured him that he would be very far from bringing statements before the Society which he had not fully tested and authenticated. He had not thought it necessary to go into the minute details of his treatment, but he could assure them before he decided that the antiseptic treatment was best.

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in any given case; he had carefully compared its work with that of
older remedies in the same or a parallel case or region. The appli
tion of this lotion he thought destroyed the upper layer of the skin,
degrees, a slight eschar is formed, which in a few days under pro
soothing treatment, is removed; and with it goes the inflammati
and irritating microbes that existed in that layer of the skin. T
next application goes a little further until all are removed, and healt
epidermis is formed. He fully agreed with all that was said by D
Fox and Wigglesworth as to the importance of hygienic treatmen
he believed they were important for everyone, whether they h
eczema or not, and though useful as adjuncts in the treatment
eczema he did not believe a severe case of the disease could be cu
by these means alone. The constitution of his brain was such that
could not grasp the connection between dieting and the cure of
severe local inflammation; and he would also like to have some m
tangible explanation as to the mode of production of an eczema
these internal causes. On the other hand the local development
eczema is at least quite clear.

Dr. G. H. Fox, of New York, made some remarks upon

THE ELASTIC CIRCULAR BANDAGE.

Dr. Fox took advantage of the condition present in Case III
demonstrate the utility of his elastic circular bandage. This consis
of a series of elastic rings of different circumferences, according
the position of the leg they were intended to fit, which were adjust
to the limb from below upward. Each ring or band measured fr
four to six inches in breadth. The patient expressed himself as fe
ing greatly relieved when the bandage was on.

The thanks of the Association were given by unanimous vote to
Shepherd and the medical gentlemen of Montreal for the handso
manner in which their hospitality had been extended to the membe
and the meeting was declared adjourned.

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A LIST OF THE PUBLICATIONS OF MEMBERS

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ELLIOT, GEO. T. 1. Two cases of epidermolysis bullosa. *Jour. Cutaneous and Genito-Urinary Diseases*, Jan., 1895.—2. A case of idiopathic atrophy of the skin. *Jour. Cutaneous and Genito-Urinary Diseases*, Feb., 1895.—3. Three cases of dermatitis herpetiformis, due to pregnancy. (Herpes Gestationis). *Amer. Jour. Med. Sciences*, July, 1895.

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TRANSACTIONS

OF THE

American Dermatological Association

AT ITS

NINETEENTH ANNUAL MEETING

HELD AT THE

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